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HANDBOOK

OF

PHYSICAL TRAINING.

By Authority of the Lords Commissioners of the Admiralty.



ADMIRALTY,
N. 10191/03.

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Admiralty, S.W.,

July, 1903.

The Handbook of Physical Training, having been approved by the Lords Commissioners of the Admiralty for adoption in His Majesty's Fleet, is issued for the guidance of Instructors and all Officers and men undergoing Gymnastic Instruction.

By Command of their Lordships,

Ivan Macgregor.

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INTRODUCTION.

A system of physical education, like other forms of education, must be progressive, commencing with elementary and easy exercises, and passing by gradual stages to the most difficult and arduous.

The instruction must be resumed at frequent but moderate intervals, to ensure a steady and even development of the powers, immoderate exercise being carefully avoided as hurtful.

Previous to commencing a course men should be weighed and measured according to the instructions at the end of this book, both before and after a course, the result being noted in a book specially kept for the purpose.

The exercises must not be considered as an end in themselves for purposes of display, but must be employed for the single object of producing men, sound in constitution and nerve; strong, active, and intelligent.

The Handbook is divided into two parts.

Part I. consists of exercises grouped according to their physical effects.

Part II. contains Dumb bell, Wand, and Indian Club Exercises, and exercises on Fixed Apparatus, viz., Parallel Bars, Horizontal Bar, and Pair of Rings.

The exercises in Part I., together with the Dumb-bell and Wand Exercises, and the first course on Fixed Apparatus, are to be employed in the Physical Training carried out in the various Training Establishments in the manner described on page 6 (*see* Group 10 in Tables).

Certain of the exercises in Part I. have been selected as the most suitable for use in sea-going ships and Shore Establishments, as it is not necessary or advisable that all the exercises in Part I. should be so employed, many of them being introduced as intermediate exercises in the progressive and gradual training of Boys, &c. At the same time other exercises from Part I. can be used if considered desirable.

A list of these selected exercises is given on page 72; those involving the use of Beams, Wall Bars, and Shelf, Bridge Ladders, &c., are included for employment in Shore Gymnasias fitted with these apparatus.

These selected exercises are to be employed, with Dumb-bell and Wand Exercises, and the first course on Fixed Apparatus, in the further training of Young Seamen and Stokers after they

leave the Training Establishments; and also in the regular exercise of men in sea-going ships and Depôts.

The advanced exercises on Fixed Apparatus are included for the purpose of recreation and variety for those whose training and development is sufficiently advanced.

EXPLANATION AND USE OF PART I.

The exercises in Part I. are grouped together according to their effects upon the body, short statements of which are given under the headings of the various groups.

The groups of exercises are as follows :—

- (1.) Leg Exercises.
- (2.) Span Bending Exercises.
- (3.) Heaving Exercises.
- (4.) Balance Exercises.
- (5.) Shoulder-Blade Exercises.
- (6.) Abdominal Exercises.
- (7.) Flank Exercises.
- (8.) Marching.
- (9.) Jumping and Vaulting.
- (10.) Breathing Exercises.

These groups are arranged in the order in which each class of exercise is to be employed during a lesson (subject to the remarks under Leg Exercises, Marching, and Breathing Exercises), as in this order one class of exercise prepares the way for the next, and the exercises can be made more powerful, and quicker progress obtained, without danger of injurious effects.

To save repetition of detail, the exercises in each group are not arranged in strict progressive order: but the proper order of progression in each group, and its relation to that in the other groups, will be found in the Tables of Exercises at the end of Handbook.

Every exercise is done from a definite Starting Position, which must be perfectly correct if the physical effects intended are to be obtained from the exercise; the most common Starting Positions in Free Gymnastics are placed at the beginning, together with the simple Arm Exercises, and these should be the first taught.

When an exercise done in one position has been thoroughly practised, progression is made by either changing the starting position and thus obtaining a different and stronger effect, or by changing the exercise. An exercise however should be returned

to later, as the class will then have obtained greater development and being able to do the exercise in better form and with more vigour, will obtain greater benefit from it.

The exercises may be divided generally under two heads; those carried out without the aid of apparatus, called Free Gymnastic Exercises; and those in which apparatus is employed.

Free Gymnastics are always to be carried out by word of command.

The apparatus employed has been specified, but it is to be distinctly understood that any apparatus which is available can be employed, as long as the physical effects are the same.

Where no apparatus is available, the alternative Free Gymnastic Exercises should be employed.

When Free Gymnastic Exercises are employed for the training and exercise of men, they should be employed as far as possible in the order of the groups, but time and circumstances may make it desirable to depart from this order and to omit some groups of exercises.

Breathing.—The development of the chest and breathing capacity is of the first importance and any exercise that contracts the chest must be carefully avoided. The breathing should always be free, and the instructor should occasionally remind the class of this during the performance of an exercise. Rules for breathing exercise are given under the head of that group.

Singing during the performance of physical exercises, especially those demanding considerable exertion, is most injurious, and is on no account to be permitted.

Correction of Mistakes.—Corrections should be made as quickly as possible so that the class is not kept in a fatiguing position for any length of time. Individual correction is to be preferred, as this method saves time and does not distract the attention of the others, the instructor moving round the class for the purpose and using as few words as possible in obtaining exactly what is required to be done.

Repetition of an exercise is better than lengthy explanations.

The words of command must be given sharply, or slowly and smoothly, as the nature of the motion may require.

After the men have thoroughly grasped an exercise, there is no necessity to illustrate it in subsequent lessons, occasional corrections excepted.

INSTRUCTIONS FOR THE ARRANGEMENT OF THE WORK IN TRAINING ESTABLISHMENTS.

At each lesson the exercises are to follow each other in the order given in the Tables (subject to the remarks on Leg, and Breathing Exercises).

Tables I. and II. contain the elementary Starting Positions and Easy Exercises.

From Table III. onwards each Table contains one or more exercises from each group of exercises. The exercises from each group are correspondingly numbered, and progress from Table III. to Table XVI. Where two exercises are set down to be done alternately, they should be carried out on alternate days.

The Tables themselves indicate the balance of progression that should be maintained between the various groups of exercises

The training of Boys is to commence with the exercises in Table I., passing on to those in Table II. at the end of the first fortnight, and to those in Table III. at the end of the second fortnight, and so on. The change from one Table to the next is, however, to be made gradually—exercise by exercise—to avoid an abrupt change to a completely new set of exercises.

After Table II. this change from Table to Table will be effected by gradually exchanging the exercises in one Table for those in the corresponding groups in the next Table. The order of this exchange of exercises will be determined by the consideration that each is to be practised until it can be done with as much precision as the degree of development will allow; then, independently of the exercises in other groups, it will be discontinued and the corresponding exercise in the next Table taken up; but in any case a few new exercises only are to be taught in any one lesson.

A general advance should thus be maintained, and the complete transition from one Table to another effected by the end of each fortnight.

Nevertheless an advance in any group of exercises is not to be made until the current exercises in that group are satisfactorily performed.

The record of the current exercises for each class must be kept, and modified as the exercises change; this will show the relative degree of advance in each group, indicate where the exercises of any particular group require special attention, and assist in maintaining a general and uniform advance throughout.

The training of 2nd-Class Stokers is to proceed on the same principles as those described above in the case of Boys,

except that as Stokers commence their training at a later age progression can be made more rapid.

The Tables are therefore to be employed as weekly Tables in the training of 2nd-Class Stokers.

The number of exercises in each group that should be done in one lesson will depend upon the time available. If a lesson is too short to permit of carrying out all the exercises of each group set down, only one of these should be employed. On the other hand, if time permits, all the exercises in the various groups set down should be carried out.

If time is very limited, the Balance Exercises, or these and the Shoulder Blade Exercises, and others as found necessary may be omitted; but Marching and Running, Arms Stretching, Leg Exercises, and Abdominal and Flank Exercises should always be carried out.

In Free Gymnastic Exercises the Movements of one exercise should not be done more than six to eight times in each direction before passing on to the next.

Exercises done with one side only are invariably to be done an equal number of times to both sides. These exercises will always be commenced with the left side, and the detail for that side only is in general given, the repetition to the right being understood.

It must be impressed upon the instructor that the value of the exercises depends upon the manner in which they are performed that the benefit derived from them is directly proportioned to the heartiness and determination put into their execution; and that it is by good judgment, energy, and sound methods of imparting instruction on his part that these efforts will be called forth.

In short, the progress of the learner depends almost entirely upon the efficiency of the instructor, whose value can be gauged by the bearing and tone of those under his instruction.

DIRECTIONS FOR HANDLING THE CLASS.

It is not possible to lay down definite rules as to the strength of classes, but it is advisable that a class of beginners should not exceed 24, though this number may be considerably augmented where men who are familiar with the movements are being exercised.

The class will be formed in two ranks, sized and numbered, and this order, which is for the sake of convenience only, will be preserved during the subsequent training of the men. At the commencement of every lesson the men will fall in in this order.

Smartness in falling in for instruction must be insisted upon from the first.

TURNINGS.

Right—Turn.—On the word *Turn*, keeping both knees well braced back and the body erect, turn to the right on the right heel and left toe, raising the left heel and right toe in doing so.

On the completion of the preliminary movement the right foot must be flat on the ground and the body raised on the left toe, both legs braced up.

Two.—On the word *Two*, bring the left heel smartly up to the right.

The turn to the left is made in a similar manner.

About—Turn.—As detailed in the *Right—Turn*, except that the body will be turned about to the right.

Two.—As before detailed.

Right (or Left)—Incline.—Raise the toes and turn on the heels a half right (or left).

STANDING AT EASE.

Stand at—Ease.—Keeping the legs straight carry the left foot off about 10 inches to the left, at the same time grasp the left hand with the right behind the back, the arms hanging loosely from the shoulders.

NOTE.—No deviation from the position of *Stand at ease* will be permitted unless the command *Stand—Easy* is given, when the men will be permitted to move their limbs, but without quitting their ground, so that on coming to *Attention* there will be no loss of dressing.

When there is no special reason for ordering *Stand at ease* before *Stand—Easy*, the order to *Stand—Easy* will be given without it. On the caution *Squad* being given to men standing easy, every man will at once assume the position of standing at ease.

OPENING THE RANKS FOR FREE GYMNASTICS, DUMB-BELL EXERCISES, &c.

Class—Number.—As usual.

Full Intervals from the Left, Right Close—March.—The whole, except the file named, will close as ordered. Each man of the front rank will raise his left arm, palm of the hand downwards, tips of the fingers touching the shoulders of the next man, and take up his dressing. The rear rank will cover correctly.

Eyes—Front.—Head and eyes will be turned smartly to the front, and the arm dropped to the side.

Half Interval from the Left, &c.—The class will proceed as above, but instead of extending the arm, the hand will be placed on the hip, the fingers to the front, thumbs to the rear, and the distance proved by touching the right arm of the next man.

For Free Gymnastics (Wand Exercises, Dumb-bell Exercises)—Prepare.—The rear rank will step back two paces.

March.—Odd numbers of the front rank will take four paces forward, and the even numbers of the rear rank will step back four paces. On the completion of the ordered number of paces, each man will look to his left, and take up his dressing.

If a large number of men are to be exercised, or space is limited, the ranks should be opened in the following manner:—

Number.—As usual.

Even Numbers, Front Rank two paces Forward; Odd Numbers, Rear Rank two paces Step Back—March.—The men will move as ordered.

(Half) Right (or Left)—Turn.—The whole will turn in the named direction.

In teaching exercises on Apparatus the following procedure is to be followed for the orderly carrying out and expedition of the work.

For individual instruction at the commencement of an exercise, or where the nature of the apparatus admits of only a limited number using it at the same time, the procedure is as follows:—

The class will be formed up facing the apparatus and standing easy.

First—File.—The first file will spring to attention.

No. 1—Ready.—No. 1 front rank will double out and place himself in the ready position (1 pace in front of the centre of the class if for a running start), and No. 1 rear rank will take his place.

At the executive word of command for the performance of the exercise, No. 1. front rank will perform the exercise. If the exercise is such that a running start is employed, No. 1 rear rank will double out and place himself in the ready position, and the next file will spring to attention.

Next—Ready (or Go).—No. 1 rear rank will double out and place himself in the ready position, and the next file will spring to attention; (or if the order *Go* is given, which is employed with a running start, No. 1 rear rank, who is already in the *Ready* Position, will perform the exercise, and No. 2 front rank will place himself in the ready position, No. 2 rear rank taking his place). No. 1 front rank will turn to the right or left, as ordered, and double back to his place by the rear of the class, halt, and stand easy. And so on, till the whole of the class has performed the exercise.

Should the apparatus accommodate more than one man at a time the orders will be as follows:—

First—File [or First Two (Three, &c.)—Files].—The named files will spring to attention.

Ready.—The men will double out and place themselves in the ready position, the lowest number on the right, the highest number on the left, the rear rank men on the left of their front rank men. If for a running start, the men will place themselves in the above order at full intervals one pace in front of the class.

PART I.

STARTING POSITIONS.

The following commonly employed Starting Positions and Arm Exercises in Free Gymnastics are introduced here in order to save repetition of their descriptions in the groups of exercises in which they occur.

At the outset of his physical training the seaman is to be thoroughly taught these Starting Positions, as upon their exact accuracy the value of the exercises done from them depends; moreover progression in any exercise is made by changing the starting position from which it is carried out, thus changing its effect.

POSITION OF ATTENTION.

1. *Position of Attention*.—The shoulders and body square to the front; the arms hanging easily from the shoulders, elbows to the rear, the fingers together and slightly bent, and their tips touching the thigh lightly behind the seam of the trousers. The hips slightly drawn back, the chest advanced but without constraint, and the shoulders drawn moderately back and down. The heels in line and closed, the knees well braced back, the toes turned out at an angle of 45° , the weight of the body on the fore part of the feet. The head held erect but not thrown back, the chin slightly drawn in, and the eyes looking straight to the front.

STARTING POSITIONS OF THE LOWER LIMBS.

2. *Astride*.—Carry the left foot two foot lengths direct to the left, keeping it turned out at the same angle as at attention; both knees straight and the weight of the body equally on both legs.

Attention.—Close the heels by bringing the left foot back to the right.

3. *Left (Right) Foot—Forward*.—Keeping the shoulders square to the front, advance the left foot two foot lengths straight to the front, keeping it turned out at the same angle as at attention; the knees straight, both feet flat on the ground, and the weight of the body equally on both legs.

A common fault is to keep the weight of the body too much on the rear leg.

Attention.—As before.

4. *Left (Right) Lunge*.

Hands on—Hips.—As in starting positions of the arms.

Left—Lunge.—Turn on the heels and point the left toe direct to the left and the right toe to the front, the body turned

well round on the hips so that the head and shoulders are square to the left.

Two.—Keeping the right foot flat on the ground and the right leg straight, lunge sharply out with the left foot three foot lengths in its own direction, and left knee in line with the left toe and carried slightly outward: at the same time incline the body forward over the left knee, the back straight and in line with the right leg, the shoulders square to the left and drawn back, the head well up. In lunging the foot should not be lifted too high and should be put down quietly.

Recover.—Keeping the right leg straight, press sharply off the ground with the left foot and recover to the front.

Lunging to the right is done in a similar manner.

STARTING POSITIONS OF THE ARMS.

5. *Hands on—Hips* (Fig. 1).—Raise both hands smartly and place them on the hips with the thumbs behind and fingers closed in front; the palms of the hands resting on the hips; the elbows drawn back in the same line as the shoulders, which are kept well down and moderately drawn back.

Common faults of this position are to hunch the shoulders, carry the elbows too far backwards or forwards, and to place the hands on the hips too far to the front or rear.

This position assures the firmness and good position of the shoulders and chest during the performance of an exercise.

Attention.—Drop the hands smartly to the sides.

6. *Head—Rest* (Fig. 2).—Without altering the position of the head or body, smartly raise the hands behind the neck and interlock the points of the fingers; the elbows forced well back, hands and fingers straight, the chest thrown out and head well up. The hands must not push the head forward with chin towards the breast.

This position ensures a correct and firm position during the performance of an exercise, and produces an increased expansion of the chest.

Attention.—As before.

NOTE.—This starting position should be employed (with moderation and not too early in the training) whenever the posture of the body during an exercise is repeatedly faulty.

7. *Arms Upwards—Stretch* (Fig. 4B).—As in *Arms Stretching* at the order *Up*, the motions of *Arms—Bend* and *Up*, are to be performed with the utmost rapidity, making a slight pause in the position of *Arms—Bend*.

Attention.—By bending the arms, bring the hands by the shortest way to the sides.

ARM EXERCISES.

Arms Stretching.

Arms Stretching.—A caution.

Arms—Bend (Fig. 3).—Keeping the elbows close to the sides, quickly bend the forearms upwards and well outwards, the fingers slightly bent and pointing towards the shoulders; the knuckles turned outwards; the shoulders drawn well back and down. This is the first movement in all arm stretching, which is, always done in two distinct motions, *bending* and *stretching*.

The common faults in this position are that the shoulders are raised and carried forward, the upper arms not close to the sides or are turned inwards so that the hands are in front of the chest.

Out (Fig. 4A).—Keeping the body steady and head well up, with the utmost speed and strength shoot the arms out sideways in line and level with the shoulders, the arms drawn well back, fingers straight, thumbs closed, and palms of the hands down.

In.—Quickly bend the arms again.

Up (Fig. 4B).—Taking care not to push the head and stomach forward, with the utmost speed and strength shoot the arms upwards and as far back as possible, arms straight, the palms of the hands turned inwards and the width of the shoulders apart, the fingers straight and thumbs closed, the shoulders well back.

In.—As before.

Out.—As before.

In.—As before.

Down.—Keeping the elbows and shoulders steady, stretch the arms quickly to the sides.

After this exercise has been taught by word of command, it is to be carried out in quick time at the commands :—

Arms Stretching.—A caution.

Out.—The motions of *Arms—Bend* and *Out* are to be performed with the utmost rapidity, making a slight pause in the position of *Arms—Bend* to ensure that this position is correctly assumed.

Up.—The motions of *Arms—Bend* and *Up* are to be performed with the utmost rapidity, making a slight pause in the position of *Arms—Bend* as before.

Out.—As before.

Down.—The motions of *Arms—Bend* and *Down* are to be performed with the utmost rapidity, making a slight pause in the position of *Arms—Bend* as before.

Later, when this exercise is perfectly familiar, it may be carried out judging the time, once or more times in each direction.

Arms Swinging.

Arms Swinging—Up.—Keeping the head back and stomach in, smartly swing the arms forward and upward and as far backward as possible; arms straight, palms of the hands turned in, fingers extended and thumbs close to the forefingers.

Out.—Smartly swing the arms down in line with the shoulders and without pause turn the palms of the hands down and swing the arms back right and left in line with the shoulders as far as possible.

Up.—Keeping the arms straight, smartly swing them forward in line with the shoulders, and without pause turn the palms of the hands inwards and swing the arms upwards and as far backwards as possible without altering the position of the body and head.

Down.—Keeping the shoulders drawn back, smartly swing the arms forward and downwards to the sides.

In this exercise care must be taken that the arms are kept straight throughout; that the head and stomach are not forced forward when swinging the arms up; and that in swinging the arms out the shoulders are drawn well back and down again.

Arms Striking.

Arms Striking—Ready.—Smartly raise the arms sideways in line with the shoulders, the palms of the hands down, fingers extended and thumbs close to the forefingers.

One (Fig. 5).—Keeping the shoulders well down, the elbows well drawn back, and without moving the upper arms, sharply bend the forearms till the hands are in front of, but not touching, the shoulders; palms of the hand down forearm and upper arm horizontal, fingers extended and thumbs close to the forefingers.

Two.—Sharply and strongly strike the forearms outwards and as far backwards as possible without raising or pushing forward the shoulders.

Attention.—Drop the hands smartly to the sides but without slapping them against the thighs.

After some practice the motions *One—Two* are to follow each other with the utmost rapidity.

LEG EXERCISES.

Exercises which develop the legs will be found among the other groups. These particular exercises have the effect of equalizing the circulation, by causing a quicker flow of blood through the legs, thereby regulating the heart-beat. For this reason they should be used after the more exhausting exercises in other groups. They should always be done in moderately slow time. The rapid movements of the legs in running and jumping have the opposite effect of increasing the heart-beat.

1. *Rising on the Toes.*

Hands on—Hips.—As before.

On the Toes—Rise.—Rise on the toes as high as possible, bracing the knees back.

Sink.—Sink on to the heels.

Attention.—Drop the hands smartly to the sides.

To be done later in Astride Position, which is assumed before doing the exercise.

2. *Knees, Bending and Stretching.*

Hands on—Hips.—As before.

On the Toes—Rise.—As in Exercise 1.

Double Knee—Bend.—Keeping the body and head erect, and elbows and shoulders well back, slowly lower the body until almost sitting on the heels, the knees forced well apart, the small of the back drawn in. (Fig. 6.)

When good balance can be maintained, arms stretching is to be carried out in this position, but never more than twice through. (Fig. 6A, B, C.)

Stretch.—Slowly straighten the legs by stretching up as high as possible on the toes.

On the Heels—Sink.—Sink on the heels.

Attention.—As before.

To be done later in the Astride Position, which will be assumed before doing the exercise.

SPAN BENDING.

Span Bending Exercises consist of an arching backwards of the whole spine, and the back should not be bent merely at the waist. For this reason the head should commence the movement backwards and return last to the upright position. Respiration should be free.

The effect of Span Bending Exercises is to strengthen the upper portion of the spine thus ensuring an erect carriage, and the consequent arching forward and widening of the chest. They employ nearly all the muscles of the body, and produce an extension and stretching of those of the abdomen.

As these exercises produce a strong contraction of the back muscles as well as pressure on the abdominal organs, they should always be followed by a forward and downward bending of the trunk, such as:—

Arms upwards stretch (Astride), Back bending Forwards and Downwards; and after the stronger Span Bending Exercises, Arms Stretching may be done in the *Forward—Bend* position, and then the remainder of the exercise completed.

Span Bending Exercises resemble those Abdominal Exercises which consist of the backward bending of the trunk; but in the latter the spine remains straight and the body merely falls back.

Span Bending Exercises are divided into two classes:—

1. Exercises in which the hands grasp, or are supported on, some apparatus. These progress in strength by increasing the distance of the heels from 1 to 3 foot lengths from the apparatus, and by increasing the backward bend. The most powerful work from this class is obtained with the arms in the horizontal position. These exercises should in the beginning be executed with the support for the hands as high as possible, and only slight bending of the back, and great care must be taken to teach the men to carry the upper part of the chest as high as possible.

2. Bending Backwards with support for the back, and without apparatus. Progression in these exercises is made by increasing the leverage of the arms and diminishing the base of support.

1. *Span Bending Position.*

This is first practised at one foot's length from the Wall Bars and without the hands grasping the Bars (Fig. 7). When the correct position is acquired in this manner, the distance of the feet from the Bars may be increased, the grasp of the Bars taken with the hands, and exercises carried out in this position.

The men are placed with their backs to the Wall Bars.

Arms Upwards—Stretch.—As before.

Backward—Bend.—Bend the body slowly backwards until the fingers are supported against the bars; palms of the hands towards each other, allowing the body to lean somewhat backwards so that the weight of the body is partly carried by the arms; the knees straight, the head and arms carried straight backwards in prolongation of the curve of the body, the eyes directed straight upwards.

The common faults in this position are that the breath is held, arms and knees bent, head forced forward, or falling too far back, the back bent only in the loins without sensible bending in the upper part of the spine, the head and arms not carried sufficiently back, and the upper part of the chest sunk, with the hips forced forward.

If the grasp of the Bars is to be taken the command will be:—

Grip the Bars.—Grasp the bar firmly with the fingers under and thumbs on top, the wrists forced well up, the arms straight.

Upwards—Stretch.—Press lightly from the bars with the hands and straighten the body.

2. *Span Bend.*—*Rise on the Toes.*

Span Bending position is taken as in Exercise 1, with a grasp of the bars, first from Standing, and later from Astride position; and after some practice the rising on toes is to be done in quick time.

On the Toes—Rise.—Keeping the arms and knees straight, raise the body slowly on the toes as high as possible, the heels closed, and the chest still more arched upwards. This is to be done without shaking the body.

Sink.—Sink the heels slowly to the ground.

3. *Span Bend.*—*Knee Raising.*

Span bending position is taken as in Exercise 2, but from standing position only.

Left Knee Raise.—Carry the hips to the right and transfer the weight of the body onto the right leg; at the same time raise the left knee straight forward and upward as high as possible without altering the position of the remainder of the body, care being taken that the left arm is kept straight. The left lower leg hanging straight down and the toes pointed to the ground, and not carried in (Fig. 8A).

Lower.—Lower the left foot to the right.

After some practice this exercise is to be carried out in two motions in quick time, on the commands:—

Alternate Knee Raising.—A caution.

One.—Quickly raise the left knee as before detailed.

Two.—Quickly place the left foot on the ground and raise the right knee.

One.—Quickly place the right foot on the ground and raise the left knee, and so on.

Left Foot—Lower.—Lower the left foot to the ground.

4. *Span Bend.—Knee Raising and Stretching.*

Span Bending position as in Exercise 3.

Knee Raising and Stretching.—A caution.

Left Knee—Raise (Fig. 8A).—As in Exercise 3.

Knee—Stretch (Fig. 8B).—Stretch the left knee slowly without sinking the thigh, until the leg is horizontal; toes pointed to the front. Care must be taken not to lose the correct position of the remainder of the body.

Bend.—Bend the knee slowly again.

Change—Feet.—Quickly place the left foot on the ground and raise the right knee.

5. *Span Bend.—Leg Raising.*

Span bending position as in Exercise 3.

Left Leg—Raise.—As in Knee Raising, but the left leg with straight knee and toes pointed, is raised straight forward but not higher than the horizontal position (Fig. 8B).

Lower.—Keeping the leg straight lower the left foot to the ground. After some practice this exercise is to be done in two motions as in Exercise 3.

When this exercise can be correctly performed, rising on the toes with one leg raised can be carried out, care being taken in this exercise that the raised leg is not allowed to sink during the rising on the toes.

6. *Span Bend.—Arms Bending.*

Span Bending position is taken first from Standing, later from Astride positions.

Before teaching this exercise the Span Bending must have so progressed that the position can be taken with the arms in a horizontal or nearly horizontal position.

Arms—Bend.—Bend the arms slowly, forcing the elbows well out, till the head is nearly touching the Bar, which the hands are grasping. The upper part of the wrist must be kept well up, and the body not allowed to sink, the knees to be kept straight and the toes firmly on the ground.

Stretch.—Stretch the arms again slowly.

7. *Span Bend.—Hand Walk Downwards.*

Span Bending position taken first from Standing, later from Astride positions.

Hand Walk, Left and Right Hand Leading.—A caution.

Left.—Shift the left hand to the next lower bar, grasping it firmly, arm straight.

Right.—Shift the right hand to the same bar as the left.

Right.—Shift the right hand to the next lower bar.

Left.—Shift the left hand to the same bar as the right.

Left.—And so on.

Return—Left.—Keeping the right arm straight, shift the left hand to the next bar above, grasping it firmly, arm straight. The return walk upwards is done in the opposite manner to the walk downwards.

At first only two shifts of each hand should be done, and the hand walk downwards by word of command should never proceed so far that the knees cannot be kept straight.

After some practice the hand walk can be done by shifting the hands past each other, when the grasp of the hands is made on alternate bars, the caution being :—*Hand Walk by Alternate Bars.*

This exercise is done later, judging the time, at the order *Commence*, and may be carried farther downwards by slightly bending the knees and letting the head fall backwards. Only after *much practice* may the walk proceed until the hands grasp the lowest bar.

The knees must not be bent more than is necessary, the heels must not be raised, and the arms must be kept straight.

8. Span Bending Position can be taken, and Exercises 2, 3, 4, and 5 carried out by one rank, the other rank acting as support; the ranks being extended to half or full intervals (Fig. 9).

Front Rank—Span Bending. Rear Rank—Support.—A caution.

Front Rank Arms upward—Stretch (Astride).—As before; the rear rank men advancing the left foot and raising the hands in readiness to grasp those of the front rank.

Backward—Bend.—The front rank men proceed as in Span Bending on apparatus, keeping the fingers straight and palms towards each other, the rear rank men lightly grasp the hands of the front rank men between thumb and fingers, without bending the latter.

NOTE.—If the rear rank are holding wands, the front rank grasp them in the same manner as the Wall Bars.

Upwards—Stretch.—As before, the rear rank coming to attention

About.—Both ranks turn about, the rear rank doing the exercise, the front rank giving support.

BENDING BACKWARDS, WITH SUPPORT FOR THE BACK, AND WITHOUT APPARATUS.

Exercises with Support for the Back.

(Beam at the height of the loins.)

9. *Back Bending Backwards.*

The men are placed with their backs touching the Beam.

Arms Upwards—Stretch.—As before (Fig. 10A).

Backward—Bend.—Bend the body slowly backwards as far as possible, keeping the arms in the same position to the body, the chest well up, the upper part of the spine well bent back (Fig. 10B).

Upwards—Stretch.—Slowly straighten the body.

10. *Arms Stretching with Back Bent.*

Arms—Bend.—As before.

Backward—Bend.—As in Exercise 9.

Arms Stretching, Arms—Out.—As usual.

In.—As usual.

Up.—Stretch the arms up in line with the body.

Exercises without Apparatus.

11. *Back Bending Backwards.*

To be taught successively in the following positions:—

(A.) Standing position with hands on hips (Fig. 11) and then in Stretch position.

(B.) Astride with arms in Stretch position.

(C.) Left or right foot forward with arms in Stretch position.

Hands on—Hips.—As before.

Backwards—Bend.—Bend the upper part of the spine backwards as far as possible, throwing the chest well forward, and keeping the head well back. If the arms are stretched upwards they must be kept well back.

Upwards—Stretch.—Slowly Straighten the body.

12. *Arms Stretching with Back Bent.*

As in Exercise 10.

13. Each of the foregoing exercises is to be concluded by, *Bending Forward and Downward*, with *Arms Stretched Upwards* (Fig. 12A).

Forward—Bend (Fig. 12B).—Keeping the back hollow, chest thrown well out, bend slowly forward at the hips; knees straight, head up, and chin drawn in; the arms well back and together. The seat must not be pushed too far backwards.

Downwards—Bend (Fig. 13).—Continue the bending downwards as far as possible, maintaining the position of the head and arms; the knees being kept straight; the hands reaching out as far as possible.

Upwards—Stretch.—Keeping the back straight, raise the body slowly by straightening the hips. The movement upwards should be led by the hands.

After the stronger Span Bending exercises Arms Stretching may be carried out in the *Forward—Bend* position, and then the remainder of Exercise 13 completed.

HEAVING EXERCISES.

The object of Heaving Exercises is to expand the chest and develop the respiratory muscles so as to increase the power and capacity of respiration.

They consist of exercises in which the body is wholly or mainly carried by the arms, such as hanging and climbing.

They employ all the muscles which connect the shoulders and arms with the chest, principally the pectorals and latissimus dorsi (the so-called Heaving Muscles).

Exercises in which the body is moved along the apparatus by the arms, or arms and legs, are arranged and progress as follows:—

First those on Horizontal Apparatus, then those on Inclined Apparatus, and finally those on Vertical Apparatus.

Great care must be taken in all Heaving Exercises that the breath is not held.

In the absence of apparatus the movements of *Arms Stretching* can be employed as a substitute for Heaving Exercises. They are to be taught as preparatory to Heaving Exercises.

HEAVING EXERCISES IN WHICH THE BODY IS ENTIRELY CARRIED BY THE ARMS.

The exercises in this division progress from Pulling Up to Arm Walk, and combinations of these.

The correct position when hanging from the apparatus with straight arms must be learned before commencing these exercises.

Arm Walk should be first taught on Horizontal apparatus (Beam), then on Inclined apparatus (Bridge Ladder or Inclined Rope), and finally on the Vertical Ropes.

All these exercises should be done smoothly and evenly, and not in jerks or irregularly; and in order not to compress the chest, the elbows and shoulders must be forced out and back, and the head prevented from falling forward with the chin on the breast.

1. *Hanging Position.*

At the command *Ready*, the man will place himself under the apparatus, standing at attention, and facing in the required direction.

The Hanging Position from the Beam or Inclined Rope is taken with either *Over-Grip* (Fig. 14A), *i.e.*, the palms of the hands to the front; *Under-Grip* (Fig. 14B), *i.e.*, the palms of the hands to the rear; or *Alternate Grip* (Fig. 14C), *i.e.*, one hand with over-grip and the other with under-grip. The beam is placed so high that in the Hanging Position the feet are a short distance from the ground.

Over (Under) (Alternate) Grip—Up.—Spring up and seize the beam with the named grip, arms straight, chest thrown well out; head held slightly back, chin drawn well in; the distance between the hands *not less* than the width of the shoulders. Knees straight, heels together and toes pointed to the ground. The legs are to hang nearly straight down, and must not be carried too far back.

Down.—Drop on to the fore part of the feet, bending the knees and forcing them well outwards, the body and head erect; and then smartly spring to attention.

2. *Pulling to the Breast (Beam).*

To be taught first with over-grip, then with under-grip, and finally with alternate-grip.

The class will be formed up in two ranks two paces in rear of the beam, and at first one rank will perform the exercise with the assistance of the other; later the whole class will perform the exercise at once.

With assistance.

Full Intervals from the Right (or Left), Right Close—March.—As before.

Two Paces Forward—March.—The class will take two paces forward with the front rank under the beam.

Pulling to the Breast, Over (Under, Alternate) Grip.—A caution.

Ready.—The front rank will look up at the bar, the rear rank closing up and seizing them by the waist, fingers to the front, thumbs to the rear, keeping the heels together and body upright.

On the Beam—Up.—With the assistance of the rear rank, the front rank will spring up and seize the beam with the named grip. The rear rank will then seize the front rank immediately below the knees.

To the Breast—Pull.—Without altering the position of the head, body, or legs, the front rank will bend the arms

with the elbows forced well outwards and the shoulders well back, until the breast touches the beam. The rear rank assisting. The breath must not be held.

Lower.—The front rank will slowly lower the body by straightening the arms, retaining the position of the head, body, and legs.

Stand—Clear.—The rear rank will step back two paces.

On the Toes—Down.—The front rank will drop on the toes, bending the knees and forcing them well apart, and smartly resume the position of Attention.

Two Paces Forward—March.—The whole will take two paces forward with the rear rank under the beam.

About.—The whole will turn about.

The exercise is then repeated with the rear rank.

This method of teaching the exercise will be found to save much time, but it must be understood that as soon as sufficient power is gained to pull up a few times without assistance, this method must be discontinued as no longer necessary.

Arm Walks.

3. *Hand over Hand Backwards* (under the Beam (Fig. 15), or by the sides of the Bridge Ladder).

Up.—Spring up and seize the apparatus, one hand on each side, the head under it; the body in the correct hanging position.

Pull.—Pull up till the arms are bent to a right angle, elbows forced well out, the chest thrown out, chin drawn in, and the face turned towards the apparatus (Fig. 15A).

March.—Maintaining the bent arm position, march backwards hand over hand, the length of each pace equal to the width of the shoulders. The body should not sway from side to side, and the legs must remain hanging straight down and closed (Fig. 15B).

Halt.—Halt, and remain in the “Bent Arm” position.

Down.—Lower the body to the hanging position and drop to the ground.

4. *Over (Under, Alternate) Grip. Right (Left) Hand Leading.*

(Beam, or one side of Bridge Ladder.)

NOTE.—With alternate grip the hand with under grip is the leading hand.

Over Grip—Up.—As before.

Pull.—As in Exercise 2.

March.—One hand is shifted, followed by the other, care being taken that they are never less than the width of the shoulders apart. Maintain the “Bent Arm” position, the body steady.

5. *Hand-Over-Hand, and Pulling to the Breast. (Beam.)*

Alternate Grip—Up.—As before, the leading hand with under-grip.

To the Breast—Pull.—As in Exercise 2 (Fig. 16A.)

March (to the right).—Lower the body into the position for marching Hand over Hand Backwards; then proceed as in Exercise 3, but pulling to the breast after each step on the opposite side to the leading hand (Fig. 16B.)

6. *Change Walk. (Beam).*

To be done alternately to the right and left.

Over-Grip—Up.—As before.

Pull.—Bend the arms to a right angle, elbows well out—(Fig. 17A.)

March (to the right).—Keeping the right arm bent, lower the left hand to the side, turn the body on the right hand to the other side of the Beam, grasp the Beam with the left hand with under-grip, rather more than the width of the shoulders from the right hand (Fig. 17B); then lower the right hand to the side and turn on the left hand and grasp the Beam with the right hand with over-grip (Fig. 17C). The exercise is continued with alternately over and under-grip on the *same side* of the Beam.

7. *Double March Backwards* (under the Beam, or by the sides of the Bridge Ladder).

Up.—As in Exercise 3.

Pull.—As in Exercise 3.

March.—Strongly bend the arms, and spring with both hands at the same time ; taking care to maintain the position of the head and body, to prevent the body from swinging, and to shift the hands the same distance.

HEAVING EXERCISES ON THE WALL BARS, WHICH INCLUDE A STRONG CONTRACTION OF THE ABDOMINAL MUSCLES.

8. *Alternate Knee Stretching.*

The men are placed facing and one pace from the Wall Bars.

Up.—Jump up to the bars and grasp the upper bar with the palms turned outwards, and close to the uprights, the back to the bars ; then raise the knees upwards until the thighs are horizontal (the lower part of the back must not leave the bars), knees and ankles lightly touching, the lower leg hanging straight down, the feet closed and pointing downwards ; the head well up, chest thrown out, and the small of the back slightly drawn in (Fig. 18A.)

NOTE.—Raising and Lowering the Knees should be practised preliminary to Knee Stretching.

Alternate Knee Stretching.—A caution.

Left Knee—Stretch.—Without lowering the left knee or carrying the right foot inwards, quickly stretch the left knee straight forward till the toes point to the front.

Bend.—Bend the left knee again.

Right Knee—Stretch.—Stretch the right knee in the same manner as the left.

Bend.—As with the left.

Down.—Lower the legs, swing them forward and at the same time quit the grasp of the hands ; alight on the toes, knee yielding, and spring to attention.

After some practice the exercise is to be carried out in two motions on the command :—

Alternate Knee Stretching. In two motions.—A caution.

Left.—Stretch the left knee as before.

Right.—Bend the left knee, and at the same time stretch the right.

Left.—Bend the right knee, and stretch the left.

Left Knee—Bend.—Bend the left knee.

9. *Double Knee Stretching.*

As in preceding exercise, but both knees stretched and bent, at the same time (Fig. 18B.)

10. *Leg Parting.*

Up.—As before.

Double Knee—Stretch.—As before.

Leg Parting—Out.—Carry the legs slowly outwards as far as possible, without allowing them to drop (Fig. 19.)

In.—Slowly close the legs.

Knees—Bend.—As before.

HEAVING EXERCISES IN WHICH THE LEGS ASSIST IN THE MOVEMENT.

For rope climbing the class will be formed up about 4 paces from the ropes.

Inclined Rope.

The Ready Position is standing at attention under the rope, facing in the required direction, and with the rope at the height of the reach above the head.

11. *Climbing, Head First.*

Ready Position facing the lower end of the rope.

Up.—Grasp the rope, one hand on each side and a distance between them of the breadth of the shoulders; bend the arms and place one leg over the rope, hip, and knee well bent, toes pointed; elbows close to the rope, chest thrown out; the free leg stretched out and down, toes pointed; head under the rope and held somewhat back, chin drawn in and eyes directed straight up (Fig. 20.)

NOTE.—When the left leg is placed over the rope, the left hand is nearest the knee, and *vice versa*.

Climb.—(Left leg on).—Shift the left hand past the right, strongly bend the arms and carry the body backwards; at the same time throw the right leg over the rope past (above) the left, which is taken off the rope and stretched out and down.

Two.—As before with the right hand and left leg.

The exercise is thus continued with the left hand and right leg, and right hand and left leg moving together.

Care should be taken that the hands are shifted the same distance back, that the exercise is done evenly and smoothly, and that the body does not swing from side to side.

Halt.—This order is given when the left leg is over the rope.

Return.—Shift the right hand past the left, strongly bend the arms and carry the body forward (downward); at the same time throw the right leg over the rope before (beneath) the left, which is taken off the rope and stretched out and down.

Two.—Repeat with the left hand and left leg.

Down.—Remove the leg from the rope and lower the feet to the ground.

Stand—Clear.—No. 1 front rank drops his hands to the sides, turns away from the class, and takes a pace to his front.

Next—Ready.—No. 1 rear rank will spring to attention, double out, and place himself under the rope; No. 1 front rank will turn towards the upper end of the rope, and double back to his place.

12. *Climbing, Legs First.*

Ready position facing the upper end of the rope.

Up.—As before, but the head lower than the legs, the body close to and in line with the rope (Fig. 21).

Climb—Two.—The exercise is carried out as in descending feet first.

Return.—As in climbing head first.

13. *Change from Legs First to Head First.*

With the right leg over the rope (Fig. 21) the change is made to the right, and *vice versa*.

Change.—Shift the right hand to the other side of the knee and grasp the rope with under grip, and allow the body to move at right angles to the rope (Fig. 22); then grasp the rope with the left hand with over-grip above the right

and the width of the shoulders from it, and bring the body under the rope (Fig. 23). Then place the left leg over the rope on the same side as the right, and at the same time stretch the right leg out and down; then shift the legs again to the proper position.

14. *Change Walk Upwards.*

Ready position facing outwards with the lower end of the rope to the right.

Up.—Grasp the rope with the over-grip, bend the arms and place the left leg over the rope, right leg straight and toes pointed (Fig. 24).

Climb.—(The change is done to the left). Shift the left hand past the knee and grasp the rope with under-grip, and allow the body to come at right angles to the rope, the right leg stretched (Fig. 25); then shift the right hand above the left and grasp the rope with under-grip, distance between the hands equal to the width of the shoulders, and bring the body under the rope, head higher than the legs (Fig. 26A). Then take the left leg off the rope and swing the right leg under and on to the rope above the right hand (Fig. 26B); the body is now in a horizontal position and at right angles to the rope with the leg stretched, head to the right of the rope (Fig. 27); a change to the right is made in a similar manner.

The change walk continues upwards alternately to right and left.

Double Climbing Rope.

Ready position standing at attention between the ropes, one on each side.

15. *Pulling Up.*

Up.—Jump up and grasp the ropes with the hands, so that the feet are a short distance from the ground. The arms straight, the hands at the same height, knuckles to the front; chest well out, head up and chin drawn in; legs together and toes pointed to the ground.

Pull.—Without altering the position of the head, body, or legs pull up until the hands are in line with the shoulders.

Lower.—Slowly lower the body by straightening the arms.

Down.—Drop on to the toes, yielding, and spring to attention.

Next—Ready.—No. 1 rear rank will double out and place himself between the ropes; No. 1 front rank will take a pace to his front, turn left, and double back to his place by the rear of the class, and stand at ease.

16. *Climbing Hand-over-Hand* (Fig. 28).

The body must not swing from side to side.

Up.—As before.

Pull.—As before.

Hand-over-Hand—Climb.—Shift the left hand up as high as possible.

Two.—Pulling with both arms, raise the body until the left arm is bent with the left hand in line with the shoulders.

Three.—Shift the right hand up as high as possible.

Four.—Pulling with both arms, raise the body until the right arm is bent with the right hand in line with the shoulder.

Halt.—Shift the left hand up in line with the right, both hands in line with the shoulder.

Return.—Shift the left hand down as far as possible.

Two.—Lower the body until the left arm is bent with the left hand in front of the shoulder.

Three.—Shift the right hand down as far as possible.

Four.—Lower the body until the right arm is bent with the right hand in line with the shoulder.

One.—As at the order *Return*.

Halt.—Shift the right hand down in line with the shoulder.

Down.—As before.

17. *Climbing. Both Hands Leading.*

Up.—As before.

Both Hands Leading—Climb.—Throw the body upwards by strongly and sharply bending the arms, and at the same time shift the hands up as high as possible and at the same height. The climbing is continued in this manner.

Halt.—Halt and pull up.

Return.—Keeping the arms bent, allow the hands to descend a short distance, and grasp the rope.

Halt.—Remain in “Bent Arm” position.

Down.—As before.

Single Rope.

The “Ready” position is standing at attention close to and facing the rope.

Right Hand Leading, Hands and Feet.

Climbing, Right Hand Leading, Hands and Feet.—A caution.

Climb.—Rising on the toes, reach up as high as possible and seize the rope with the right hand.

Two.—Seize the rope with the left hand immediately below the right.

Three.—Raising the knees as high as the waist, grip the rope between them, the rope passing between the lower portion of the right shin and left calf (*i.e.*, over the right instep and outside the left heel), arms fully extended, back rounded, and head brought forward (Fig. 29).

Four.—Hollow the back, and at the same time raise the body by straightening the legs and pulling up with both arms, head thrown back (Fig. 30).

One.—Reaching up as high as possible with the right hand, grasp the rope (Fig. 31).

Two.—Grasp the rope with the left hand immediately below the right (Fig. 32).

Three.—Raise the knees as high as the waist, grip the rope as before.

Four.—Raise the body as before.

Down.—Lower the body to the full extent of the arms, allowing the rope to slip through the legs.

Two.—Grasp the rope with the left hand in line with the nipples of the breast.

Three.—Grasp the rope with the right hand immediately above the left.

Down.—As before.

Two.—As before.

Three.—As before.

Stand—Clear.—Drop the hands to the sides, and take a side pace to the left.

Next—Ready.—No. 1 rear rank will spring to attention, and, doubling out, will place himself close to the rope, as detailed for No. 1 front rank.

No. 1 front rank will take a pace to his front, turn to the left, and double back to his place, passing by the rear of the class, halt and stand at ease.

Both Hands Leading, Hands and Feet.

Climb.—The first four motions as before; then in three motions, the hands moving together.

Down.—As before.

Two.—Shift the hands down together in line with the nipples of the breast.

Down.—As before.

Hand-over-Hand, without the Feet.

Climb hand-over-hand, keeping the head up, chest thrown out, legs straight and closed, and toes pointed down. The descent should be made without jerks.

This exercise can also be done with the legs at a plant.

BALANCE EXERCISES.

These exercises require little muscular exertion, but their practice gives complete control over the movements of the body, and they produce suppleness and an erect and easy carriage.

BALANCE EXERCISES WITHOUT APPARATUS.

These exercises are to be carried out by word of command, and should be employed alternately with those on Apparatus.

1. *Leg Raising Sideways.*

Hands on—Hips.—As before.

Left Leg Sideways—Raise.—Carry the hips to the right and transfer the weight of the body on to the right leg; at the same time slowly raise the left leg, fully stretched, as high as possible to the left; the body upright and without swaying.

Lower.—Lower the left foot slowly to the ground.

2. *Leg Stretching Backwards.*

Hands on—Hips.—As before.

Left Knee—Raise.—Carry the weight of the body on to the right leg; at the same time raise the left knee forward till the thigh is at right angles to the body, the lower leg hanging straight down, the toes pointing towards the ground.

Backward—Stretch.—Keeping the body perfectly upright, slowly carry the left knee backwards and stretch the left leg as far as possible to the rear, knee straight and toes pointed.

Knee—Raise.—Slowly raise the left knee forward again.

Change—Feet.—Place the left foot on the ground and raise the right Knee.

Attention.—Place the right foot on the ground and drop the hands to the sides.

3. *Leg Stretching Forward.*

Hands on—Hips.—As before

Left Knee—Raise.—As before.

Forward—Stretch.—Without moving the body, slowly stretch the left leg straight forward, the toes pointed to the front the leg at right angles to the body.

Knee—Bend.—As before.

Change—Feet.—As in preceding exercise.

Attention.—As before.

4. *Leg Stretching Forward and Backward.*

Exercise 2 and 3 combined.

5. *Arms Stretching with Knees Bent.*

Arms Upward—Stretch.—As before.

On the Toes—Rise.—As before.

Knees—Bend.—As before.

Arms Stretching, Arms—Bend.—As before.

Out.—As before.

In.—As before.

Up.—As before.

Knees—Stretch.—As before.

Arms Downward—Stretch.—As before; at the second motion of *Arms Downward—Stretch* drop the heels to the ground.

6. *Single Knee Bend and Stretch.*

Arms—Forward—Raise.—Raise the arms forward in line with the shoulders, fingers and thumbs extended, and palms of the hands turned towards each other.

Right Leg Forward—Raise.—Raise the right leg forward as high as possible without moving the body, knee straight, toes pointed.

Left Knee—Bend.—Keeping the body upright, bend the left knee to a right angle.

Knee—Stretch.—Straighten the left leg, keeping the body upright.

Right Leg—Lower.—Lower the right leg to the left.

After some practice the exercise may be carried out by bending the left knee as much as possible, inclining the body forward and maintaining the balance.

7. *Low March.*

Hands on—Hips.—As before.

On the Toes—Rise.—As before.

Knees—Bend.—As before.

Low March—One.—Keeping the body upright, transfer the weight of the body on to the right toes, and advance the left foot, placing the toes on the ground.

Two.—Keeping the shoulders at the same height as in *Knees—Bend*, transfer the weight of the body on to the left toes, and advance the right foot in the same manner as the left.

One.—Transfer the weight of the body on to the right toes and advance the left foot.

Halt.—Bring the foot in rear up to the other, in the position of *Knees—Bend*.

BALANCE EXERCISES ON APPARATUS.

(Beam, flat side up.)

The beam should be first at knee height, and then gradually raised to reach height.

8. *Standing Position on the Beam* (Fig. 33A).

One foot about a foot's length in front of the other, the weight of the body on the balls of the feet and chiefly on the rear leg, toes turned out at an angle, the knees slightly bent and not held stiff, the arms somewhat raised outwards with easy bending in the elbows, palms of the hands down, head well up and the eyes directed straight forward.

If the balance is lost it must be regained either by bending the knees, and if necessary carrying the hips to one side, the body and head assisting by a slight bending to the side; or, if this is insufficient, raise or lower one or both arms, or carry one or the other leg to the side.

All counterbalance movements should be as small as possible, and are to be done quietly, and not in sharp spasmodic movements.

When the balance is altogether lost, either quickly stoop down and grasp the beam with the hands and then slowly rise again to the standing position, or jump off the beam. Should the beam be too high for jumping off direct, jump off and catch the beam with the hands and then drop to the ground.

9. *Cross-standing on the Beam.*

As in Standing position, but facing to one side with the feet across the beam and a little apart; the weight of the body equally on both feet and the arms lifted more forward; the eyes directed straight to the front.

To regain the balance, the body and head assist by slightly bending backwards and forwards.

Ascending and Descending from the Beam.

(A.) *At Knee Height.*—Step direct on to and off the beam.

(B.) *From Knee to Shoulder Height—Up.*—Jump up and straddle the beam, then place the hands on the beam directly in front of the legs and rest the weight of the body on the arms; throw the legs backwards and bring the feet up on to the beam; then rise slowly to the standing position (Fig. 33B).

Down.—Reverse the movements for ascending; or jump off the beam.

(C.) *From Shoulder to Reach Height—Up.*—Circle the beam then proceed as in (B).

Down.—As in (B).

10. *Standing Position. Preparatory Foot Movements.*

Right (Left) Foot—Commence.—Carry the leading foot behind the other and place it lightly on the beam, then carry it back to its former position. Repeat 4 times.

Change—Feet.—Transfer the weight of the body on to the leading foot.

Left (Right) Foot—Commence.—Repeat with the other foot.

The following exercises should be done in Standing Position :—

11. *Leg raising sideways.*—As before.

12. *Leg stretching backwards.*—As before.

13. *Leg stretching forwards.*—As before.

14. *Exercises 12 and 13 combined.*—As before.

15. *Double knee bend to a right angle.*—As before.

16. *Single knee bend and stretch.*—As before.

17. *Balance March Forward, one foot leading.*

Forward March, Left (Right) Foot Leading.—A caution.

Commence.—Shift the leading foot a short pace forward and transfer the weight of the body on to the leading foot; then shift the rear foot forward the same distance as the leading foot. The eyes must be kept directed upon a spot immediately in front, and not allowed to glance at the beam. The knees should be kept supple, and the whole leg with plenty of spring.

Halt—Halt and remain in Standing Position.

If the balance is lost the march is discontinued until it is regained. The attempt to regain the balance by quickening the march must not be attempted. Care must be taken to sink the body well if unsteadiness occurs; and that the counterbalance movements, particularly of the body and head, are not too strong.

18. *Balance March Backward, one foot leading.*

This exercise is carried out in a similar manner to the forward march, but backwards with the rear foot leading.

This exercise should not be attempted until a certain amount of confidence has been gained in the forward march, and a sense of touch in the feet has been acquired.

19. *Balance March Forward.*

Forward, March.—A caution.

Commence.—Keeping the knees slightly bent and the eyes directed straight forward, march forward with short steps one foot alternately in front of the other. The march should be done calmly and evenly.

Halt—As before.

20. *Balance March Backwards.*

Similar to the march forward, but with one foot placed alternately behind the other.

21. *Standing Position. To turn about.*

About.—Keeping the knees supple, turn slowly on the balls of the feet; to the left if the left foot is in the rear, and *vice versa*.

NOTE.—Turning from Standing position to Cross Standing position is done in a similar manner.

22. *Balance Low March.*

Low March, Knees—Bend.—Bend the knees as much as possible.

Commence.—As in low march, but the free leg is carried forward with the inside of the foot along the beam.

23. *Balance March Forward, and Dropping on the Knee* (Fig. 34).

As in Balance March Forward, but the steps somewhat longer and dropping on to the rear knee after each step.

24. *Cross-standing, Balance March to the Right and Left.*

To the Right—March.—Shift the right foot a very short pace to the right, followed by the left foot; the march is continued calmly and evenly along the beam, the knees slightly bent and without stiffness, the eyes directed straight to the front. This march is to be done alternately to the right and left.

25. *Two Men Passing each other.*

This exercise should first be practised on the ground. Upon meeting, the men advance, their left (right) feet somewhat turned out, and place the inside of the feet together on the beam, at the same time they grasp each other lightly with the left (right) hand on the shoulder and the right (left) hand on the hip; they then turn together to their right (left), on their left feet, and place the right feet on the beam on the opposite side. Their position is now reversed. They then release the grasp of the hands, withdraw the left feet a short distance, and turn about in the ordinary manner.

If during any period of the turn the balance should be lost, the men must instantly let go of each other so as not to pull each other down.

SHOULDER-BLADE EXERCISES.

Shoulder-Blade Exercises are exercises of the arms done in positions to isolate the chest and head ; they employ the muscles of the shoulder-blades, upper arms, and all those of the spine from the neck downwards.

When correctly done these exercises rapidly produce a good bearing of the shoulders, head, and neck ; and exert a vigorous and stimulating influence on the nerves.

1. *Arms Swinging.*

To be done—

(a) in position of Attention. As in Standing Position.

(b) with Left and Right Foot Forward ; on the command :—

Arms Swinging, Left Foot—Forward.—Advance the left foot as in commencing position at the same time swing the arms up. The knees should be braced well back.

Arms Swinging is then carried out. (Fig. 34*b*.)

Attention.—Swing the arms down smartly to the sides and bring the left foot back to the right.

(c.) At the Lunge with left and right foot ; at the command :—

Arms Swinging, Left—Lunge.—Turn to the left as in lunging.

Two.—Lunge out with the left foot and at the same time swing the arms up.

Arms Swinging is then carried out. (Fig. 34*b*)

Attention.—Smartly swing the arms to the sides and spring to attention.

2. *Arms Striking.*

To be done—

(a) in the position of Attention. As in Starting Positions.

(b) at the Lunge ; on the command :—

Arms Striking, Left—Lunge.—Turn to the left as in lunging.

Two.—Lunge out with the left foot, and at the same time quickly raise the arms sideways in line with the shoulders.

Arms Striking is then carried out.

Attention.—As in lunging, and drop the hands smartly to the sides.

(c) Bending forward ; on the command :—

Arms Striking—Astride.—Carry the left foot off, and at the same time raise the arms sideways in line with the shoulders.

Trunk, Forward—Bend.—Keeping the back straight, slowly incline the body forward by bending at the hips ; the knees straight ; the shoulders held well back and low ; the head well up and chin drawn in, the seat not carried too far back.

Arms Striking is then carried out.

Trunk, Upwards—Stretch.—Keeping the back straight, raise the body slowly erect.

Attention.—Close the left foot to the right and drop the arms smartly to the sides.

3. *Arms Stretching.*

To be done—

(a) at the Lunge ; on the command :—

Arms Stretching, Left—Lunge.—Turn to the left as in lunging, at the same time *Arms—Bend.*

Two.—Lunge out with the left foot and at the same time *Arms—Out.*

Arms Stretching is then carried out.

Attention.—Arms Downward—Stretch, and at the same time bring the left foot back to the right as in lunging.

(b) Bending forward ; on the command :—

Arms Stretching—Astride.—Carry the left foot off, and at the same time *Arms—Bend.*

Trunk, Forward—Bend.—As before.

Arms Stretching is then carried out.

Trunk, Upwards—Stretch.—As before.

Attention.—Arms Downward—Stretch, and at the same time bring the left foot back to the right.

4. *Position Across the Bench.*

The class in two ranks with full or half intervals is placed with the front rank one pace from, and facing the Benches.

Front Rank on the Bench—Down.—The front men advance the left foot, and bending down, place the palms of the hands on the ground on the opposite side of the bench. Right leg straight and the head well up. At the same time the rear rank men take a pace to the left front with the left foot and a pace to the right front with the right foot and come to the position of *Astride* just in rear of the right feet of the front rank men.

Two.—The front rank men rest the upper part of the thighs on the bench, and extend the left leg to the rear and close to the right, feet together; at the same time the rear rank men bend down and grasp the ankles of the front rank men.

Hands on—Hips (Fig. 35).—The front rank men place their hands on hips and slowly raise the upper part of the body as high as possible, the knees straight, head and chin drawn well in, shoulders well down and drawn back. The breath should not be held.

The rear rank men take care not to press down the feet of the front rank men too far, but to keep their legs horizontal.

The following exercises are to be done in this position when it can be properly assumed and maintained:—

- (a.) *Arms Stretching.* { The order “*Hand on—Hips*” being substituted for the orders “*Down*,”
 (b.) *Arms Striking.* { “*Attention*,” &c.

(c.) *Bending Forward*; on the commands:—

Arms Upwards—Stretch.—As before (Fig. 36A).

Forward—Bend.—Keeping the position of the head, body, and arms unchanged, and the chin well in, slowly bend forward at the hips until the chest is nearly touching the ground (Fig. 36B).

Stretch.—Slowly raise the upper part of the body as high as possible again, taking care not to let the head or arms drop forward.

ABDOMINAL EXERCISES

These exercises employ all the muscles on the foreside of the trunk, especially the abdominal muscles, and have a beneficial effect upon the abdominal organs.

Care must be taken that the breath is not held during the performance of these exercises.

Abdominal Exercises are divided into three classes.

1. Exercises which consist of the alternate contraction and extension of the abdominal muscles.
2. Exercises in which the position produces a strong pressure on the abdominal organs, without much contraction or extension of the muscles.
3. Exercises which produce a powerful stretching of the abdominal muscles.

EXERCISES WHICH CONSIST OF THE ALTERNATE CONTRACTION AND EXTENSION OF THE ABDOMINAL MUSCLES.

1. *Sitting Down, Lowering and Raising the Body* (Ranks at full intervals).

Front Rank—About.—The front rank turn about.

Front Rank—Down.—The front rank men place both hands on the ground and sit down with their feet towards the rear rank, legs together and feet closed; the body upright, head erect, chin drawn in, chest thrown out, and the small of the back slightly drawn in. At the same time the rear rank come to *Astride*.

Hands on—Hips. (Arms—Bend.) (Arms—Upward Stretch.)—The front rank men place their hands on hips (arms bend) (arms upward stretch), at the same time the rear rank men bend down and grasp the insteps of the front rank men; knees slightly bent, arms straight.

Body—Lower.—The front rank keeping the back straight, the small of the back in, and maintaining the position of the head, trunk, and arms, allow the body to fall slowly back by yielding at the hips, until the back is within a short distance of the ground.

Body—Raise.—Maintaining the position of the head, trunk, and arms, raise the body slowly to the upright position. When the arms are stretched they must be kept well back throughout the exercise.

Front Rank—Up.—The rear rank spring to attention; the front rank place their hands on the ground and stand to attention.

Rear Rank—Down.—The rear rank sit down, the front rank Astride.

This exercise is also carried out on the order *Backward—Incline*, when the body is allowed to fall back so as to form an angle of 45 degrees with the ground; and in this position Arms Stretching is carried out.

2. Raising and Lowering the Legs.

On the Back—Down.—Place both hands on the ground, and lie down on the back, legs to the front, and closed, toes pointed, and place the hands on the hips.

Legs—Raise.—Keeping the legs straight, toes pointed, and head on the ground, raise the legs slowly to the perpendicular position.

Lower.—Lower the legs slowly to the ground.

On the Feet—Up.—Place both hands on the ground, and spring to attention.

3. Lowering and Raising the Body with Foot-hold.

The class is placed facing and one pace from the Wall Bars.

Left Foot—In.—Raise the left leg and insert the foot between two bars at knee height or above, the left leg slightly bent, the inside of the thigh somewhat turned up.

Hands on—Hips (Arms—Bend) (Head—Rest) (Arms—Upward Stretch) (Fig. 37A).—As before.

Body—Lower.—Maintaining the posture of the head, trunk, and arms, and keeping the back straight, let the body fall slowly backwards by yielding at the hips, until it is in line with the raised leg, which is straightened as the body falls back. Head well up, chin drawn in, and the shoulders kept level throughout (Fig. 37B).

Later, Arms Stretching, and Arms Swinging are to be carried out in this position.

Body—Raise.—Raise the body slowly to the upright position.

Attention.—Bring the left foot to the right and the hands to the position of attention.

4. *On the Wall Bars. Double Knee Stretching. See Heaving Exercises.*

5. *On the Wall Bars. Parting the Legs. See Heaving Exercises.*

6. *Slow Circle on the Beam.*

Up—Spring up and grasp the beam with undergrip.

Circle.—Keeping the arms straight, slowly raise the legs, knees straight, toes pointed, until the feet touch the beam; then bend the arms and carry the body over the beam and come to position of attention on the beam.

Return.—Return with the legs straight.

Down.—Drop to the ground and stand to attention.

EXERCISES IN WHICH THE POSITION PRODUCES A STRONG PRESSURE ON THE ABDOMINAL ORGANS.

7. *Pressing from the Ground.*

On the Hands—Down.—Smartly bend the knees outwards and place the palms of the hands on the ground in front of the feet, and the width of the shoulders apart, the fingers turned slightly inwards (Fig. 38A).

Two.—Keeping the arms straight and feet together, shoot the legs to the rear; the head, body, and legs forming one straight line, the hands in advance of the shoulders, and the chin slightly drawn in (Fig. 38B).

Arms—Bend.—Keeping the head, body, and legs in one straight line; bend the arms with moderate speed, turning the elbows outwards, until the chest almost touches the ground.

Stretch.—Straighten the arms, taking great care to maintain the body and legs in one straight line.

On the Feet—Up.—Keeping the hands on the ground, quickly bring the feet up to the hands in the position of *On the Hands—Down*.

Two.—Spring to attention.

This exercise progresses in strength by increasing the distance between the hands, when the fingers point forward.

8. *Hand Standing.*

The class is placed two paces from and facing the Wall Bars or wall.

Hand Standing—Down.—Bend the knees outwards, and place the palms of the hands on the ground midway between the feet and the wall, and the width of the shoulders apart; the fingers turned slightly out and the arms straight. Care must be taken that the hands are at the same distance from, and not too near the wall.

Two. —Throw the legs up and support the toes against the wall. The whole weight of the body on the arms, which are held straight; the knees and back slightly bent so that the body and legs are in one curve; the head bent well back.

On the Feet—Up.—Push lightly from the wall with the feet, throw the legs forwards, drop lightly on the toes, and spring to attention.

After some practice the following exercise can be done in the Hand-Standing Position:—

(A) *Arms—Bend.*—Bend the arms slowly to a right angle, with the elbows outwards.

Stretch.—Slowly straighten the arms.

(B) *Hand Lifting—Commence.*—Commencing with the left hand, lift the hands alternately a short distance from the ground. The hands must be put down in the same place from which they were raised.

(C) The preceding exercise can be carried out in two ranks at half or full intervals; one rank hand standing, the other giving support, as follows:—

Front Rank—About.—As usual.

Front Rank, Hand Standing—Down.—As before. The rear rank men advance the left foot and raise their hands in readiness to grasp the ankles of the front rank (Fig. 39A).

Two.—The front rank men throw their legs up moderately straight, and the rear rank men grasp the ankles of the front rank men (Fig. 39B).

Front Rank—Up.—The rear rank men lightly push the legs of the front rank men backwards, and then spring to attention. The front rank men drop lightly on to the toes and spring to attention.

Rear Rank, Hand Standing—Down.—As before, with the front rank giving support.

After some practice the exercise can be carried out in quick time, the front rank men throwing up their legs as soon as their hands touch the ground. At the order *Change* the front rank men return to the position for supporting the rear rank, upon which the rear rank immediately take Hand-Standing position.

9. *Hand Walk.*

When Hand Standing with Hand Lifting can be done in good form, the Hand Walk may be attempted, the Hand Standing position being taken without support for the feet.

EXERCISES WHICH PRODUCE A POWERFUL STRETCHING OF THE ABDOMINAL MUSCLES.

10. *Stretch Position, Bending Backwards as in Span Bending.*
11. *Stretch Astride Position, Bending Backwards (Fig. 40) and the various Span Bending Exercises.*

FLANK EXERCISES.

These exercises bring into play the oblique muscles of the abdomen and back. They have a beneficial influence upon the circulation and spine, and generally upon the internal organs; and have a marked effect upon the suppleness and elasticity of the body.

Flank exercises have also the effect of widening the chest by alternately expanding each side, and may therefore be employed as substitutes for Heaving exercises where no apparatus is available.

Flank exercises consist of side bending and turning, and combinations of these with backward and forward bending.

1. *Trunk Turning.*

To be done first in Astride and then in Standing position; with the Hands on Hips, Head Rest, and Stretch positions.

Hands on—Hips—(Head Rest)—(Arms Upward—Stretch).—As before.

(Astride.—As before.)

Trunk Turning. To the Left—Turn.—Turn the upper part of the body slowly to the left as far as possible without altering the position of the legs and feet; the head and arms follow the movement of the body, the knees braced well back, the feet firm on the ground: the shoulder-blades in a fixed position. The turn is to be made in the waist, and the hips should not be allowed to turn too far (Fig. 41).

Forward—Turn.—Turn the body slowly to the front.

To the Right—Turn.—As to the left.

After some practice the exercise is to be done from side to side. On the commands:—

To the Left—Turn.

To the Right—Turn.

After some practice in Astride position with the Arms stretched upward, the exercise should be done quickly on the commands:—

Rapid Trunk Turning in four motions—One.—Quickly turn the trunk to the left as before detailed.

Two.—Quickly turn to the front.

Three.—Quickly turn to the right.

Four.—Quickly turn to the front.

This exercise should be done later by combining the first two and last two orders in rapid succession; thus:—

One—Two—Three—Four.

Or from side to side on the commands:—

Rapid Trunk Turning in two motions—One—Two.

2. *Side Bending.*

To be done first in *Astride* and then in *Standing* position, with the arms in *Head Rest* (Fig. 42), and *Stretch* positions (Fig. 43).

Head—Rest—(Arms Upwards—Stretch).—As before.

(*Astride*.—As before.)

To the Left—Bend.—Slowly bend the trunk directly to the left as far as possible without bending the left leg or raising the right foot; the shoulders in the same plane as the hips, the head in line with the trunk and not bent on the shoulders. When the arms are stretched upwards they must be kept straight, well back, and without altering their position to the body, or increasing the distance between the hands.

Upwards—Stretch.—Stretch the body to the upright position.

To the Right—Bend.—As to the left.

This exercise is to be done from side to side, and in rapid time, as described in *Trunk Turning*.

3. *Working the Hips.*

On the Hands—Down.—As before.

Left—Turn.—Turn to the left and rest on the right hand and the outside of the right foot, the left foot on the right; the head, body, and legs in a straight line, the hips kept well up, the shoulders and right arm perpendicular. At the same time place the left hand on the hip.

Left Leg—Raise.—Raise the left leg, fully stretched, as high as possible without lowering the hips.

Lower.—Lower the left foot to the right.

About.—Resume the position of *On the hands—Down*.

Two.—Turn to the right, as detailed to the left.

Front—Turn.—Resume the position of *On the hands—Down*.

4. *Side Bending with Foot-hold.*

To be done first with Head Rest and then in the Stretch position. The exercise progresses in strength by taking the foot-hold higher up the Wall Bars.

The men are placed with one side towards the Wall Bars and one pace from them.

Left Foot—In.—Raise the left leg sideways and insert the foot between the bars at knee height or over, the toes turned up. The right leg perpendicular, and the left leg straight.

Head Rest—(Arms Upward—Stretch).—As before (Fig. 44A).

To the Right—Bend.—As in Side Bending; the arms, shoulders, and hips moving in the same plane as the raised leg (Fig. 44B).

Upwards—Stretch.—As in Side Bending.

5. *Wheeling.* (Fig. 45).

This exercise is to be carried out to the right and left. It may first be taught individually, and in the beginning a slight bending of the body towards the wheeling side and a lowering of the leading arm may be allowed.

When the men have gained some proficiency the exercise may be carried out in single file at full intervals, the odd numbers wheeling one way, the even numbers the other, and this may be followed by the command *Into Line—Wheel*; great care being taken that each man wheels directly to his right or left, the arms, legs, and trunk being kept in one plane, and that the movement is done with full force and the utmost rapidity.

Arms Upward—Stretch.—As before.

Astride.—As before.

To the Right—Wheel.—Bend the upper part of the body slightly to the left and slightly bend the knees, then sharply straighten the knees and throw the upper part of the body with the greatest possible speed to the right, pressing off the ground first with the left foot, then with the right; the right and the left hand are placed on the ground with rather more than the breadth of the shoulders apart. The weight of the body is supported first on the right arm, then on the left: the arms being kept straight. The legs, well apart, are thrown up direct to the side, and when the body is perpendicular the legs are closed. As the legs pass the perpendicular the left leg is separated from the right, the weight of the body is taken on the left hand, and by bending

the trunk strongly to the side, descend first on the right and then on the left foot, and swing the body up to the Stretch position with the legs Astride.

When wheeling twice or more times in rapid succession to one side, the legs should not be closed when they are in the perpendicular position, but the arms and legs should be kept stretched out like the spokes of a wheel. The movement then becomes a distinct "one—two—three—four," "right hand—left hand—left foot—right foot."

6. *Plant from the Wall Bars.*

The men are placed with one side towards, and at one pace from the Wall Bars.

Arms Upward—Stretch.—As before.

To the Left—Bend.—Bend to the left and grasp the bars, under and over grip, with the left hand below the hip and the right hand directly above the left, the lower arm stretched away from the bars, the upper arm pulling the right side upwards; at the same time raise the right leg as high as possible; the left leg straight, the head kept square with the shoulders.

Out.—Swing the right leg quickly down and up, press off the ground with the left foot and carry the left leg up to the right leg, and by strongly bending the upper arm and pressing away with the lower arm, throw up the whole body to the horizontal or above (Fig. 46). Then lower the body, fully stretched, straight out from the bars by straightening the upper arm; the legs straight, heels closed, and hips and shoulders vertical.

Down.—Slowly lower the left leg to the ground.

Two.—Quit the grasp, lower the right foot to the ground and stand to attention.

About.—As usual, and repeat with the left side up.

TRUNK TURNING AND BENDING IN COMBINATION WITH BACKWARD AND FORWARD BENDING.

7. *Trunk Turning, and Bending Backwards and Forwards.*

To be done in Standing, then in Astride position; with arms in Stretch and then Head Rest positions.

Head—Rest. (*Arms Upward—Stretch*).—As before.

Astride.—As before.

To the Left—Turn.—As before, but the body turned only a half left.

Backward—Bend.—As before.

Upwards—Stretch.—As before.

Forward—Bend.—As before.

Upwards—Stretch.—As before.

To the Front—Turn.—As before.

8. Trunk Turning and Bending.

To be done in Standing position with Head Rest; and in Astride position with arms in Stretch and Head Rest positions.

When turned to the left the bending is done to the left only, and *vice versa*.

Head—Rest.—As before.

To the Left—Turn.—As in the preceding exercise.

To the Left—Bend.—As before.

Upwards—Stretch.—As before, maintaining the turn.

Forward—Turn.—As before.

MARCHINGS.

Marching, Hopping, &c. are to commence every lesson or period of Gymnastic Exercise, in order to warm the body by increasing the circulation, also to awaken attention and bring the class quickly under the complete control of the Instructor before proceeding to more difficult and complicated exercises. Marching is also to be used in its proper order in the groups of Exercises.

Length of Pace and Time.

Length of Pace :—

In quick time the length of pace is 32 inches.

In double time the length of pace is 40 inches.

Time :—

In quick time 125 paces are taken in the minute = 4 miles per hour.

In double time 180 paces are taken in the minute = 200 yds. per minute.

In the case of boys no definite length of pace can be laid down, all that is necessary is to see that a fair length of pace is taken consistent with the relative sizes of the boys.

Position in Marching.

In marching the position of the head and body must be maintained erect and square to the front with the weight on the fore part of the feet, and the seaman well balanced on his limbs.

In Quick Time.—The arms will swing naturally from the shoulders, the right arm swinging forward with the left leg, and the left arm with the right leg, the hand not to swing in advance of the leading foot nor across the body. The hands will not be raised higher than the waist band. The movements of the leg must spring from the haunch, and be free and natural. Both knees must be kept straight, except while the leg is being carried from the rear to the front, when the knee must necessarily be a little bent, to enable the foot to clear the ground.

Double March.—As the man steps off, he will raise the hands as high as the waist, clenching the fists, the flat part of the wrists inwards. The arms should move backwards and forwards with freedom, care being taken that the hands are kept the width of the shoulders apart. The head to be kept erect and the shoulders square to the front. The knees are to be more bent and the body more advanced than in the quick march.

Marchings.

Quick—March.—The class will step off together with the left foot.

On the Toes—Rise.—With a slight bend of the knees, rise on the toes, and at the same time place the hands smartly on the hips. The cadence remaining the same as in quick march, but the length of pace reduced to 18 inches.

Quick Time—Quick.—Resume the quick march, making a beat with the left foot to mark the change, and at the same time drop the hands smartly to the sides.

Knees—Up.—Raise the thighs until they are horizontal, the toes pointing downwards, the length and cadence of pace the same as the quick march, and at the same time place the hands on the hips.

Break into Quick Time—Quick.—Resume the quick march, beating with the left foot to mark the change, and at the same time drop the hands to the sides.

Hopping.

On the Left Foot—Hop.—Place the hands smartly on the hips, and hop forward on the toes of the left foot, at a pace of about 18 inches, head erect, chest thrown well to the front, elbows and shoulders forced backwards and downwards, the right leg perfectly straight and kept well to the rear, toe pointing back.

Repeat the practice not more than six times.

Change—Feet.—As above, but hopping on the right foot (Fig. 47).

Quick Time—Quick.—Drop the hands to the sides and resume the ordinary quick march, making a beat with the left foot to mark the change.

Hopping on the Left and Right Foot alternately.

On the Left Foot—Hop.—Hop as before, changing feet at each hop, the intermediate stride being a pace of at least 33 inches, the leg being thrown well forward.

N.B.—The men should always be made to hop as *high* as possible, and the heel never allowed to touch the ground. The upright position of the head and body must be maintained, and the shoulders kept square to the front.

Quick Time—Quick.—As before.

Rapid Marching.

Rapid Marching—Commence.—Gradually quicken the cadence until the utmost possible speed is attained.

Quick Time—Quick.—Resume the quick march.

Double March.

Break into Double Time—Double.—The class will at once break into double time, running lightly on the toes, with as little noise as possible, care being taken that the heels do not touch the ground. At the same time they will raise their hands as high as the waist, fists clenched, flat part of the wrist inwards; the arms must move with freedom at the shoulder and close to the sides, with the action of the legs. The head must be kept erect, and the shoulders square to the front. There must be no stiffness in the movement of the legs; thighs, knees and ankle joints all working freely. The feet must be picked up cleanly off the ground at each pace, which should not be less than 40 inches, and the body inclined slightly forward. As the foot leaves the ground it should be carried straight to the front, care being taken that the heels are not raised towards the seat.

Knees—Up.—Check the pace at once, but not the cadence, and without throwing the feet to the front, raise the knees well up in line with the waist, body and head erect, chest well advanced.

As you were.—Resume the double march.

JUMPING AND VAULTING.

Jumping and Vaulting call for the application of the whole of the bodily powers, together with an exercise of the Will to maintain full control of the body during all its movements.

They produce quickness of judgment and activity.

Great attention must be paid to the proper form of doing the exercises, which must always be insisted upon.

Both sides of the body must be equally exercised, taking off with the left and right foot alternately, and vaulting to the left and then to the right, &c.

JUMPING.

In all Jumping the body should be under perfect control throughout, and the men must be taught to alight in such a manner that they can *stand stiff*. Great care must be taken that the correct manner of alighting is acquired, the legs being stretched out, arms returned to the sides, and head well up, directly the body has cleared the jump; and plenty of yielding in hip, knee, and ankle joints on alighting.

INTRODUCTION OF JUMPING.

1. *Jumping off the Left and Right Foot Alternately.*

Off the Left (or Right) Foot—Jump.—Take a pace to the front with the left foot, followed by a forward swing of the right leg, and jumping off the left foot, land on the fore part of the feet, body and head erect, knees bent and forced outwards, and without pause, sink on the heels and resume the position of attention.

Repeat the above commencing with the right foot.

The length of the jump should be at least 36 inches.

2. *High Jump.*

The class will be formed up in two ranks, in front of and about ten paces from the jumping standards.

First—File.—The first file will spring to attention.

No. 1--Ready.—No. 1 front rank will double out smartly and place himself one pace in front of the centre of the class, No. 1 rear rank taking his place.

Go.—No. 1 front rank will start with short steps and quickly increase the pace. When a short distance from the jump he will bend his knees, spring off the toes, bringing his knees up as high as possible and turning them out, heels closed; and, keeping his body erect and head up, will clear the jump, and with the arms to the sides, hands behind the thighs, and the legs stretched out as soon as the line is passed, will alight on the toes, bending his knees and turning them well out. At the same time No. 1 rear rank will place himself in front of the squad.

Next—Go.—No. 1 front rank will turn to the left, double back to his place by the rear of the class, and stand at ease: at the same time No. 1 rear rank will act as detailed above. The second file will spring to attention, No. 2 front rank will double out in front of the class, No. 2 rear rank taking the place of No. 2 front rank, and so on until the whole squad has performed the exercise.

Jumping by Files.

Jumping by Files.—A caution.

First—File.—As before.

Ready.—As before, but the rear rank man will place himself on the left of his front rank man, at full interval.

Go.—As before, the men retaining their interval, and jumping together, and the next file taking post in front of the squad.

Next—Go.—Each man will turn to the right and double back to his place by the rear of the squad and stand at ease; at the same time the next file will act as above, and the third file move out in front of the squad, and so on.

Two or more files should be practised at once.

Later the men should be taught to jump, taking off the left and right foot alternately, the foot to be taken off being named.

3. Long Jump.

This is to be carried out as in High Jumping.

High Jump with Spring Board.

In jumping with the spring board, only the last or taking off step is to be made upon it.

4. *Arms and Legs out.*

Take off the spring board with either foot and throw the legs and arms out sideways, and clear the line in an erect position, closing the legs and bringing the arms to the sides as soon as the line is passed.

5. *Hollow Back Jump.*

Spring well up, throw the chest well out and small of the back in, with the thighs turned out; clear the line with the arms and legs bent backwards, and immediately the line is passed assume the ordinary position for alighting.

VAULTING.

The Beams.

The class will be formed up in two ranks about eight paces in front of the Beams.

Vaulting on the beams will be taught individually, after which as many as the apparatus will accommodate will perform the exercise together. At the commands:—

First—File.—The first file will spring to attention.

No. 1—Ready.—(In exercises 9, 10, 11, 13, and 14) No. 1 front rank will double out and place himself one pace in front of the class, No. 1 rear rank taking his place. The exercise is proceeded with, the men moving out at the order *Go* as in Jumping.

(In exercises 7, 8, and 12) No. 1 front rank will double out and place himself in the ready position, No. 1 rear rank taking his place. At the order *Next Man—Ready*, No. 1 rear rank will double out and place himself in the ready position, and the next file will spring to attention, and so on.

Next—Go, or Next—Ready.—No. 1 front rank will turn away from the beams and double back to his place by the rear of the class and stand at ease; should he be on the other side of the beam, he will turn away from it, double away, and place himself in the same relative position eight paces from and opposite the beam, and exactly facing the left-hand man of the class, and stand at ease.

Single Beam.

6. *Introduction to Vaulting.*

The class in single rank at full intervals is formed up facing, and at two paces from the beam, which is placed at breast height.

Up.—Take a pace to the front with the left foot and, jumping off both feet, Spring up and place the hands on the beam, fingers to the front and thumbs to the rear, and throw the body up to position on the beam. The arms straight, chest well up, and shoulders back, and a slight bow in the back from neck to heels. Head up and eyes directed high, the legs closed, and hands just outside the legs.

Down.—Slightly bend the back, carry the legs a little forward, and quickly swing them backward, push well away from the beam and alight on the toes.

7. *Horizontal Vault—Right (and Left).*

Ready position, two paces from and facing the beam.

Up.—As before, but the weight of the body on the left hand, which grasps the Beam with fingers behind and thumb in front, the right arm pulling the body over to the right, back hollow, legs straight and closed. As soon as the body swings over the beam quit the grasp with the right hand and alight facing to the left with the left hand on the beam. Straighten the knees and drop the left hand to the side.

The side must not be turned towards the beam during the spring.

This exercise should be carried out later with a running start.

8. *Flank Vault.*

The ready position is Right (Left) side towards the beam at arm's length from it.

Vault.—Advance the left leg and take off on the left foot, at the same time place the right hand on the beam, swing the right leg straight forward, and up with the left leg; both legs straight, the body nearly upright; and carry the body resting on the right arm over the beam, the legs straight and as high as possible (Fig. 48). As soon as the legs are past the beam shift the hands and alight yielding at arm's length from the beam and turned in the same distance as at the start.

Return.—Repeat the vault in the opposite direction.

This exercise is to be practised later by alternate vaulting backwards and forwards and alighting each time in advance of the position of taking off, thus travelling along the beam. The caution being:—

Flank Vault along the Beam.—No. 1 front rank placing himself close to one end of the beam, and making his last vault to the side from which he started.

*Double Beams.**Face Vault Between to Right (or Left). (Fig. 49.)*

The distance between the beams at the start about two arms lengths, the lower beam to start at hip height.

Go.—Run to the beams, jump and grasp the upper beam with the right hand with over grip, place the left hand on the lower beam, fingers to the rear, thumbs to the front, the left hand immediately below the right; pressing with the left arm and pulling with the right, swing the body between the beams as near the upper as possible, the legs together and straight, the back hollow and head up. When the body is directly between the beams, let go with the upper hand, swing the body to the right and immediately shift the left thumb over the beam to the fingers, and alight facing to the left with the left hand on the lower beam, and at the full distance of the left arm.

10. Back Vault Between to Right (or Left). (Fig. 50.)

Same as preceding exercise, except that when the body is between the beams turn to the right so that the seat is turned towards the lower beam, the legs together and straight, and head up. At the same time push the under hand from the beam and quit its grasp, and shift the upper hand quickly to the lower beam and grasp it, in the place the lower hand has just left.

Alight at arm's length from, and with the right side towards the beams, the right hand on the lower beam and the arm at right angles to it.

In this and the preceding exercise the take off must not be made obliquely nor too near to the beams, and the leading side must not be turned towards the beams before the take off.

11. Forward Vault Between to Right (or Left).

As in Face Vault except that no turning is made during the swing, the whole body faces forward, the under hand does not change its grasp, but the legs are swung to the front, and both hands quit the beams, the upper hand first; and the alighting is done with the back to the beams and as far from them as possible.

12. Standing High Vault Over to Right (or Left).

The distance between the beams one foot, the upper beam at shoulder height or above. Ready position as in Exercise 7.

Up.—Jump up and take Position on the upper beam and then turn the left hand with thumbs forward and fingers to the rear.

Vault.—Keeping the head well back throughout, incline the upper part of the body forward by bending at the hips, and shift the right hand with thumb behind and fingers forward to the lower beam directly under the right hand (Fig. 51A), then strongly swing the legs backwards and throw the body to the right up and over the beams, and pressing strongly on the under hand, throw the legs, straight and closed, up over the beams (Fig. 51B). Before alighting with the right side towards the beams, press off and let go with the under hand, and shift the upper hand to the lower beam.

13. *Running High Vault Over to Right (or Left).*

The distance between the beams, about two arms' lengths, the upper beam at reach height or over. The beams should not be higher than the men are able to swing their legs up in one movement.

Go.—Run and take off as for Face Vault, place the left hand on the lower beam, with the thumb forward and fingers in rear; and the right hand with over-grip on the upper beam immediately above the left (Fig. 52A); at the same instant swing the body strongly to the right with the legs closed, straight, and together; and heave up, with the legs leading and the front of the body against the beams (Fig. 52B), over and to Position on the upper beam facing to the rear (Fig. 52C). The left hand must be kept on the lower beam as long as possible.

Down.—As in Exercise 6.

14. *Shoot Between the Beams.*

The upper beam just over reach height, distance between the beams gradually decreased to two arms lengths.

Go.—Run and take off as before, grasp the upper beam with both hands with over-grip, with the arms bent; at the same time bring the knees up as high as possible, and as the body swings between the beams shoot to the front as far as possible; alight yielding and come to attention.

VAULTING BOX AND HORSE.

The class will be formed up in two ranks facing the horse and about 12 paces from it, the centre of the class opposite the centre of the horse. At the commands:—

First—File.—The first file will spring to attention.

No. 1—Ready.—No. 1 front rank will double out and place himself one pace in front of the centre of the class, No. 1 rear rank taking his place.

Go.—No. 1 front rank will double to the horse and perform the exercise, No. 1 rear rank taking his place in front of the class.

Next—Go.—No. 1 front rank will turn to the left, double back to his place by the rear of the class, and stand at ease; at the same time No. 1 rear rank will act as detailed. The second file will spring to attention, No. 2 front rank will double out in front of the class, No. 2 rear rank taking his place, and so on until the whole squad has performed the exercises.

15. *On the Knees and Off.*

Go.—No. 1 front rank will double to the horse, and, jumping off the spring board, will place both hands on the horse the width of the shoulders apart, fingers to the front, raising his knees between the hands, and will rest on the top of the horse on the shins and insteps, legs close together, toes pointed backwards, knees pushed well to the front. As the legs touch the horse he will sit well back on the heels, body and head erect, back hollow, and hands by the sides (Fig. 53).

Off.—Spring forward off the insteps, throwing the arms to the front in line with the shoulders, and alight on the further side of the horse, dropping lightly on the fore part of the feet, and stand to attention.

16. *On the Feet and Off.*

Go.—As in the preceding exercise, except that No. 1, front rank, bringing his feet between the hands, will spring on to the horse and stand erect on it.

Off.—Throwing the arms to the front in line with the shoulders to assist the spring, jump upwards and forwards legs together, toes pointed down, back hollow, and head erect; alight on the toes as before.

17. *Round Back Between the Hands.*

Go.—Double to the horse, and, springing off the board with both feet, place the hands on the top as before. Rounding the back and doubling the legs up under the body, clear the horse between the hands, legs and feet close together. As the legs clear the horse shoot them downwards, and assuming the hollow back position, alight as before.

18. *Flank Vault to Right (Left).*

Go.—Double to the horse and spring off the board from the left foot; place the right hand on the horse and vault to the left, the right leg clearing it in advance of the left. The left arm raised above the head; drop lightly on the forepart of the feet, and spring to attention.

19. *Horizontal Vault to the Right (Left) (Fig. 54).*

Go.—As before, springing off both feet, place both hands on the horse, swing the legs, straight and closed, round to the right and the shoulders and head to the left, back hollow, head up; and alight facing the horse.

20. *On the Feet and Off (Horse lengthways).*

Go.—Run and take off as usual, the hands on the back of the horse, separate the legs on each side of the horse, and by bending the knees bring the feet up to the centre of the horse and spring to attention.

Off.—Take a pace forward with the left foot and jump off the horse, throwing the arms to the front as before.

Later, as soon as the feet touch the horse spring up as high as possible, throwing the arms to the front and over the head, the chest thrown out, the knees straight and toes pointed; head back, and eyes directed up; and alight on the mat as before.

21. *Left (Right) Foot On and Back Lift (Horse lengthways).*

Go.—Run and take off with both feet, the hands on the back of the horse, alight on the left foot on the back of the horse, right leg straight to the rear; and immediately bend forward, place the hands on the front of the horse.

Off.—Swing the right leg backwards, press off the left foot, bend the arms, and bring the legs together; as the body begins to fall, press with the hands and alight yielding.

Later the two motions are done in quick time with but a slight pause between them.

22. *Split Over the Horse, Hands on the Front End of the Horse (lengthways).*

Go.—Run and take off with both feet, springing well up, throw the body forward keeping the head up, place the hands on the front end of the horse, swing the legs to the front on

either side of the horse, and alight with the feet together as before.

23. *Split Over, Hands on the Back of the Horse (lengthways).*

Go.—With a start at full speed, take off with both feet, at the same instant strike the hands down strongly on the back of the horse, and throw the body well up at once. Separate the legs and pass over the horse one leg on either side; hands to the side, knees straight, toes pointed, and back hollow.

24. *Back Lift (Horse across).*

Go.—Take off with both feet, and keeping the head back, sharply throw the legs up backwards keeping them straight and closed, and alight on the horse with the hands on the further side. As the body swings over, press with the hands and alight yielding.

25. *Clear Jump (Horse across).*

Taking off left and right foot alternately, jump with the body square with the horse, head up and chest thrown out, and knees gathered well up.

26. *High Vault, Right (Left).*

As for hollow back vault, but throwing up nearly to a long arm balance.

27. *Hand Spring.*

As in back lift but throwing up to straight arms.

28. *Short Arm Balance.*

Stand facing the horse, take a short run and place both hands squarely on the centre of it. Take off the left or right foot throwing the legs up, sinking the chest nearly to the horse, and keeping the head up, maintain the balance.

29. *Long Arm Balance.*

Take a rather longer run than in exercise 28, proceed as for short arm balance, throwing the legs up higher, arms straight, and maintain the balance.

30. *Between the Hands, Hollow Back.*

Go.—The run must be made at full speed, take off on both feet and at the same instant, beat strongly down on the horse with the hands, throw the body upwards as high as possible, the chest thrown strongly forward at the take off, the knees not being bent up, so that the body rises erect, and passes over the horse with the legs and arms swung back. Bring the legs and arms to the front and alight as usual.

ESCALADING THE SHELF.

The class will be formed up in two ranks at full intervals, 12 paces in front of, and facing the shelf.

31. *One Rank on the Shelf.*

Rear Rank on the Shelf.—A caution.

Ready.—The front rank moving at the Double will place themselves in the position of "Left—Lunge," with the left foot about 15 inches in front of the edge of the shelf, the right leg away from the shelf, and the right foot raised upon the toes. At the same time the rear rank will take two paces forward into the places of the front rank men.

Two.—The front rank, turning about on the left heel, will swing the right leg underneath the shelf and come to the position of "Left—Lunge," facing outwards, at the same time they will interlock the fingers and place the backs of the hands on the left thigh; head erect and shoulders square to the front.

Go.—The rear rank, moving at the Double, will place their hands on the shoulders of the front rank, left foot advanced and on the outside of the right feet of the front rank, the left leg to the rear and straight, and the left foot raised upon the toes.

Up.—The rear rank will place the left foot in the hands of the front rank and assisted by them will mount to the shelf with the right foot on the edge and outside the right hand, and the left foot in the hands of the front rank; the front rank bringing their right feet up to the left as the rear rank rises.

Two.—The rear rank will spring up and, turning to the left, come to Attention on the shelf facing outwards: the front rank drop the hands to the sides and come to Attention facing outwards.

Prepare to—Circle.—The rear rank will assume the position of “On the Hands—Down,” but with the back hollow, head well up, thumbs over the edge of the shelf, and fingers to the rear; at the same time the front rank will turn left and extend the left arm upwards with the fingers extended and thumb pointing over the left shoulder.

Circle.—The rear rank, keeping the legs straight and close to the shelf throughout, will slowly circle over the edge; the front rank assisting by placing the palm of the left hand on the necks of the rear rank, and the right hand against their seats. The rear rank, when hanging with toes to the shelf, will take time by the right and lower the legs slowly; the front rank dropping the right hand to the side.

Down.—The rear rank will drop on to the fore part of the feet and spring to attention, the front rank drop the left hands to the side.

Change—Places.—The front rank will turn to the right, and take a side pace to the left front.

Fall In.—Both ranks will double away and halt by word of command.

Two.—Both ranks will turn about.

Three.—The class will stand easy.

The exercise will now be carried out with the front rank on the shelf and the rear rank assisting.

32. Both Ranks on the Shelf.

Both Ranks on the Shelf.—A caution.

The Rear (Front) rank first mounts the shelf as before, then at the command:

Front (Rear) Rank—Up.—The front rank will turn about, spring up and catch the edge of the shelf with both hands and pull to the breast; as soon as their heads rise above the edge, the rear rank will place their right hands behind the heads of the front rank and the left hand under their chins, and the front rank, with the assistance of the rear rank, will mount to the shelf, turn left about, and both ranks will come to Attention facing outwards, the rear rank in rear.

Prepare to—Circle.—The rear rank will carry their feet off to astride, the front rank proceed as before detailed.

Circle.—The front rank will circle as before, the rear rank bending down and assisting them by holding their ankles and shifting the grasp to their hands as soon as their feet reach the edge of the shelf.

Down.—The front rank proceeds as before detailed, the rear rank spring to Attention.

The remaining orders are as for one rank on the shelf. When both ranks are on the shelf they may be turned to the right or left and be marched off the shelf, the men jumping by files on to a mattress, care being taken that the men jump together and straight to their front, keeping the body erect, and alight yielding.

BREATHING EXERCISES.

Every Gymnastic Exercise should be done with due regard to an unhindered, free respiration. This is of the first importance.

Breathing Exercises are performed with the muscles employed in, and have a calming influence upon, the act of respiration. They are therefore employed at the end of a lesson to restore regular breathing after the violent movements of jumping and vaulting, &c.

Breathing Exercises can also be employed after any violent or exhausting exercise when considered desirable.

These exercises are to be taught as Breathing Exercises by numbers, after which they are always to be done a named number of times, judging the time.

The arms should be raised slowly, and always in the same rhythm as that in which the normal breathing takes place; the lungs being filled as the arms are raised, and the breath expelled as they are lowered; the arms being lowered *immediately* after they have been raised, and a slight pause made before they are again raised. The breath should be taken and expelled through the nose.

The most common faults in these exercises are :—

The breathing not done quietly and evenly.

The breathing out not done as deeply as the breathing in.

1. *Arms Raising.*

Arms—Raise.—Keeping the elbows stretched, raise the arms slowly sideways until they are in line with the shoulders, and without pause quickly turn the palms of the hands up and continue the motion until the arms are perpendicular, the fingers extended and thumbs close to the forefinger; the palms of the hands turned inwards and the width of the shoulders apart.

Care must be taken not to hunch the back or to force the head and hips forward as the arms are raised to the perpendicular.

Lower.—Lower the arms slowly to the sides, turning the palms of the hands down quickly without checking the motion of the arms, when they are in line with the shoulders.

2. *Arms Raising and Rise on Toes.*

Arms—Raise.—As in Exercise 1, rising on the toes as the arms are raised from the horizontal to the Stretch Position.

Lower.—As in Exercise 1, sinking on to the heels as the arms are lowered from the horizontal to the sides.

3. *Arms Circling.*

Arms Circling—One.—Raise the arms forward and upward to the Stretch Position, rising slowly on the toes as the arms are raised from the horizontal to the Stretch Position.

Two.—Lower the arms outwards and downwards to the sides, sinking slowly on to the heels as the arms are lowered from the horizontal to the side.

4. *Arms Raising and Double Knee Bend.*

Arms—Raise.—As in Exercise 1, rising on the toes as the arms are raised from the sides to the horizontal, and bending the knees as the arms are raised from the horizontal to the Stretch Position.

Lower.—As in Exercise 1, straightening the knees as the arms are lowered from the Stretch Position to the horizontal, and sinking on to the heels as the arms are lowered from the horizontal to the sides.

5. *Arms Striking.*

To be done in the positions of Attention, Left (Right) foot forward, and at the Lunge.

EXERCISES SUITABLE FOR EMPLOYMENT IN SEA-GOING SHIPS AND DEPÔTS IN THE FURTHER TRAINING OF YOUNG SEAMEN AND STOKERS AFTER THEY LEAVE THE TRAINING ESTABLISHMENTS; AND FOR THE REGULAR EXERCISE OF MEN.

A. Exercises in Part I.

Note.—Exercises necessitating the use of the Beams, Bridge Ladders, Wall Bars, Shelf, &c., are included for employment in shore gymnasia fitted with these apparatus.

1. *The Starting Positions* and simple *Arm Exercises* must be thoroughly learned in all cases.

2. *Leg Exercises.*—All.

3. *Span Bending Exercises* :—

No. 11A. Hands on Hips (Arms Upward Stretch).
Back bending backwards. To be followed by :—

No. 13. Arms Upward Stretch, Back bending forwards and downwards.

No. 8. Span bending in Ranks.

And in shore gymnasia :—

No. 1. Span Bending Position.

No. 2. Span Bend. On the Toes Rise.

No. 3. Span Bend. Knee Raising.

4. *Heaving Exercises* :—

Arms Stretching in position of Attention.

Inclined and Vertical Rope climbing.

And in shore gymnasia :—

Exercises on the Beam, Bridge Ladder, Wall Bars, and Climbing Ropes.

5. *Balance Exercises* :—

No. 1. Hands on Hips, Leg Raising Sideways.

No. 4. Head Rest, Leg Stretching backwards and forwards.

And in shore gymnasia :—

Balance Marching on the Beam.

6. *Shoulder Blade Exercises* :—

- No. 1(b.) Left (Right) foot forward, Arms Swinging
- No. 2(b.) Arms Striking at the Lunge.
- No. 3(a.) Arms Stretching at the Lunge.

7. *Abdominal Exercises* :—

- No. 1. Sitting down, Hands on Hips, Lowering and Raising the Body.
- No. 2. Raising and Lowering the Legs.
- No. 7. Pressing from the ground.

And in shore gymnasia :—

- No. 3. Lowering and Raising the body with Foot-hold.

8. *Flank Exercises* :—

- No. 1. Head Rest, Trunk Turning (in two motions).
- No. 2. Head Rest, Side Bending.

And in shore gymnasia :—

- No. 4. Side Bending with Foot-hold.

9. *Marching*.—All.

10. (a.) *Jumping*.—High and Long Jumping.

(b.) *Vaulting*.—Exercises on the Horse.

And in shore gymnasia :—

Vaulting on Single and Double Beams, and
Escalading the Shelf.

11. *Breathing Exercises* :—

- No. 1. Arms Raising.
- No. 3. Arms Circling.

B. *Exercises in Part II.*

Dumb-bell Exercises.

Wand Exercises.

Exercises in the First Course on Fixed Apparatus.

Note.—The exercises in the First Course on Fixed Apparatus lead to those in the Advanced Course.

PART II.

LIGHT MOVEABLE APPARATUS.

LIGHT DUMB-BELL EXERCISES.

The class will fall in two deep with a bell in each hand, and be opened out and closed as for Free Gymnastics, the words "Dumb-bell Exercises," being substituted for "Free Gymnastics."

It must be remembered that the benefit derived from any exercise depends upon the amount of vigour and determination put into its execution. In dumb-bell exercises this can only be effected by gripping the bells as hard as possible, and bracing the muscles generally.

First Exercise.

CAUTION.—*Bending and Stretching the Body.*

Ready.—The whole will carry the left foot off about ten inches to the left.

One.—Keeping the shoulders square to the front and the right arm straight, raise the hand sideways above the head, and reach down as far as possible with the left, head thrown well back and the eyes directed towards the bell.

Two.—Keeping the arms in line with one another, lower the right and raise the left, head and eyes directed upwards towards the bell. (Fig. 55.)

Second Practice—Change.—Drop the left arm quickly in front of the body, and turning well on the hips to the right, swing both bells the width of the shoulders apart above the head, backs of the hands to the left, eyes directed towards the bells; back hollowed, and the body raised on the left toe, both legs straight.

Two.—Keeping the back hollowed, swing both arms down in front of the body and up to the left, rising on the right toe in doing so.

Steady.—On the word "Steady" (which should be given when the hands are up to the left) bring the hands directly to the sides, and the left foot to the right.

Second Exercise.

CAUTION.—*Working the Muscles of the Shoulders.*

First Practice—Ready.—Without contracting the chest, carry the bells in front of the thighs, arms straight, backs of the hands to the front.

One.—Preserving the squareness of the shoulders and keeping the right arm straight, raise the bell slowly to the front as high as the point of the shoulder, reaching well forward in doing so.

Two.—Still preserving the squareness of the body, slowly raise the left hand and at the same time lower the right.

Steady.—As usual.

Second Practice—One.—Slowly raise both arms outwards in line with the shoulders, forcing them well back, backs of the hands upwards.

Two.—Slowly lower the arms to the sides and force the chest well forward.

Third Practice—Change.—Keeping the body square to the front, swing the right arm to the front as high as the shoulder, and the left to the rear, backs of the hands outwards.

Two.—By a vigorous motion swing the left bell to the front and the right to the rear.

Fourth Practice—Change.—On the command “Change” (which should be given when the left bell is in front) bring the right hand out to the left, turning the backs of both hands upwards, and without any pause slowly raise the bells above the head, rising on the toes in doing so, and then with a circular motion to the rear carry the bells again to the position of “Change,” sinking slowly on the heels at the same time.

Steady.—As usual.

Third Exercise.

CAUTION.—*Swinging the Bells.*

One.—Raise both bells smartly above the head, the width of the shoulders apart, finger nails inwards, head thrown back, eyes directed towards the bells; at the same time carry the left foot about 18 inches to the left.

Two.—Bend the back, and slightly bending the knees, swing the bells down between the legs, forcing the head well down.

Three.—Swing the bells above the head to the position of “One.”

Four.—Bring the bells smartly to the shoulders, the elbows close to the sides.

Steady.—Bring the left foot back to the right, and drop the hands to the sides.

Fourth Exercise.

CAUTION.—*Working the Shoulders and Elbows.*

Ready.—Bending the arms at the elbows, bring both bells up smartly in front of the shoulders, finger nails inwards, elbows close to the body.

One.—Strike up smartly with the right hand, head thrown back and eyes directed towards the bell.

Two.—Strike up smartly with the left hand, and withdraw the right to the “Ready.”

Change.—Bring the left hand to the “Ready.”

Two.—Turn half-right as for lunging.

Three.—Lunge smartly out to the right with the right foot, at the same time strike out smartly with the left hand, reaching well forward in doing so.

Two.—Strike out with the right hand and withdraw the left.

Change.—On the command “Change” (which is given when the right bell is in front), withdraw the right hand.

Two.—Rise on the toes and turn on the heels to the “Left about,” reversing the position of the legs.

Three.—Strike out smartly with both hands.

Two.—Strongly pull both bells back to the breast.

Steady.—Bring the right foot to the left, turning to the front in doing so, and drop both hands to the sides.

Fifth Exercise.

CAUTION.—*Bending and Stretching the Arms.*

First Practice—Ready.—Keeping the arms extended, raise them right and left in line with the shoulders, backs of the hands down.

One.—Gripping the bells hard and without lowering the elbows, slowly bend the arms until the bells are over the shoulders.

Two.—Slowly extend the arms to the “Ready.”

Steady.—As usual.

Second Practice—Ready.—Carry the bells in front of the thighs, arms rigid, finger nails to the front, bells pressed well down and gripped hard, elbows in front of and pressed lightly against the sides.

One.—Keeping the right elbow fixed and steady, raise the bell to the shoulder.

Two.—Keeping both elbows fixed, raise the left bell, and force the right out and down to the “Ready” position.

Steady.—As before.

Sixth Exercise.

CAUTION.—*Chest Expanding.*

Ready.—Keeping the arms straight, smartly raise the bells to the front, level with the point of the shoulder, backs of the hands outwards.

One.—Without lowering the arms force them smartly backwards as far as possible.

Two.—Resume the “Ready” position.

Steady.—As usual.

EXERCISES WITH WANDS.

The class will be formed in two ranks with wands at the order, and be opened out and closed as in Free Gymnastics.

Ready.—Incline the wand slightly forward and seize it with the left hand, back of the hand to the rear, left fore-arm horizontal.

Two.—Carry the left foot off about 12 inches to the left, bring the wand at the same time to a horizontal position in front of body at the full extent of the arms, hands outside the thighs and grasping the wand firmly.

Order.—Wands.—Bring the left heel to the right and at the same time raise the wand to the right side in the left hand, seizing it at the centre with the right.

Two.—Place the end of the wand quickly on the ground and cut away the left hand to the side.

When coming to the “Ready Position” for the 3rd, 4th, and 5th exercises, the heels are kept closed; also in changing to these exercises at the caution “—— Exercise,” the left foot will be carried back to the right.

At the order “Steady,” which is given at the end of each exercise, the men will return smartly to the “Ready” position.

Chest Expanding.

Hands to—Distance.—Slide both hands outwards until sufficient distance is obtained to admit of the wand being passed over the head and behind the back with straight arms.

One.—Keeping the arms straight, slowly raise the wand above the head and continue the motion without any pause as far as possible behind without relaxing the grip of the wand. Throughout this exercise the head and body must be kept motionless, the chest forced well forward, the grasp unrelaxed, and the arms rigidly straight; the wand in its backward circle being forced well away from the shoulders.

Two.—Slowly raise the wand behind the back and continue the motion over the head until the “To Distance” position is resumed, head, body, chest, and arms as in “One.”

This exercise should be practised several times daily, especially during the early period of the seaman’s training.

WAND EXERCISES.

(Also Bar-bell Exercises.)

It is unnecessary that all the following exercises should be performed at the same drill.

First Practice.

One.—Keeping the knees braced back and the arms straight, bend quickly over until the wand touches the insteps, head forced down.

Two.—Swing the wand above the head with the arms and knees straight, reaching well out to the front in doing so, the head to be thrown well back.

Three.—Bend the arms, and pull the wand well down behind the shoulders, forcing the chest well forward, eyes directed to the front, head erect.

Four.—Smartly resume the second position.

One (or Steady).—Swing the wand down smartly to the first position, reaching well out to the front in doing so.

In performing the above exercise “Judging the Time,” the movements will be gone through eight times.

Second Practice.

One.—Swing the wand sideways to the right, to a horizontal position above the head, with the arms and wrists straight, body turned on the hips to the right, back hollowed, eyes directed to the wand, knees braced back; rising well upon the left toe, the right foot flat on the ground.

Two.—Swing the wand down, and up to the left, as above.

In performing the above exercise, “Judging the Time,” the movements will be gone through 16 times (eight to the right, and eight to the left).

Third Practice.

Right--Lunge.—Make a partial turn to the right, so that the right foot points to the right, and keeping the left foot firm on the deck, and the left knee braced back, lunge out with the right foot; at the same time throw the wand to a horizontal position above the head, body from the hips turned to the right, and bent backwards, head and eyes directed towards the wand.

Two.—Without bending the left leg spring to the "Ready" position, at the same time turning to the front.

Front—Lunge.—Make a quarter left turn, and lunge to the front as directed for "Right—Lunge."

Two.—As before.

Left—Lunge.—Make a quarter turn to the left, and lunge as before, but with the left foot.

Two.—As before.

In performing the above exercises, "Judging the Time," eight lunges will be made commencing from the right then eight commencing from the left, after which the squad will turn to the front.

Fourth Practice.

One.—Bring the wand smartly to the breast in line with the nipples, elbows close to the sides, forcing the chest well forward, and keeping the elbows down.

Two.—Throw the wand out to the front, arms straight, backs of the hands up, and in line with the shoulders.

Right—Lunge.—While at *One* make a partial turn to the right as in lunging practice, head and eyes turned to the right.

Two.—Keeping the left foot flat on the ground and the left leg straight lunge to the right, and at the same time force the wand out from the breast as before.

About.—On the command "About" (which is given while at "One"), rise on the toes and turn on the heels to the left about, reversing the position of the legs.

Two.—Force the wand out as before.

Recover.—On the command "Recover" (which is given while at "One"), bring the right heel to the left, turning to the front in doing so.

Two.—As before.

In performing the above exercise, "Judging the Time," *One*, *Two*, will be repeated four times in each position.

Fifth Practice.

One.—Quickly throw the wand above the head to the full extent of both arms; head up, chin drawn in, and eyes directed to the front.

Two.—Rise on the toes as high as possible.

Three.—Gradually lower the body as far as possible by bending the knees, forcing them well apart; heels together, head and body erect, eyes directed to the front.

Four.—Slowly resume the second position by straightening the knees.

Five.—Slowly lower the heels to the ground.

INDIAN CLUB EXERCISE.

Men fall in with clubs at the "Slope," and are extended in the same manner as for Free Gymnastics, the club being held at full length twelve inches from the shoulder of the next man and returning to the "Slope" at the order "Eyes Front."

The position "Slope Clubs" is heels together, the clubs resting against the shoulders, fore-arms horizontal, and elbows close to the sides.

Ground Clubs.—Advance the left foot 30 inches, and place the clubs quietly on the ground on each side of the left foot, then loose the grasp of the hands, carry the left foot back to the right, straighten the body, and remain steady.

Right (Left or Both) Hand—Up.—Advance the left foot between the clubs and grasp the right club firmly by the handle, raise it a few inches from the ground and let it swing well to the rear; at the same time carry the left foot back to the right and straighten the body, then let the club swing well to the front and up to a perpendicular position in front of the body, right elbow to be close to the side, right fore-arm horizontal; the left arm hanging loosely at the left side.

NOTE.—The right foot is advanced for "Left Hand up," the left for both hands.

A club may be changed from one hand to the other by the order "Change Club."

Astride.—Carry the left foot off ten inches to the left, and the right foot the same distance to the right.

Slope Clubs.—Close the heels by carrying the right foot ten inches to the left and instantly closing the left to it and assume the position of "Slope."

Each exercise is always commenced from the position "Astride," "Right (Left or Both) Hand Up." The men will always take up this position at the order "Steady."

Twists.

Forward Twist.—Allow the club to fall straight to the front and describe a circle with the wrist as centre, the club to come up outside the arm to a perpendicular position and remain steady.

Backward Twist.—The same as for “Forward Twist” except that the circle is described in the opposite direction.

These two twists are to be first learnt with each hand, and then both hands, in order to work the wrists. Advanced classes may afterwards introduce them into the other combinations.

Forming Circles.

There are four simple exercises of forming circles, *viz.* :—

1. In front of the body, outside.
2. In front of the body, inside.
3. Behind the back, outside.
4. Behind the back, inside.

The term “Outside” means that the club commences to fall *away* from the body, and “Inside” that it commences to fall *towards* the body. That is to say, “Outside” means the right club goes to the right or the left to the left, and “Inside” that the right goes to the left or the left to the right.

The executive word of command is “Swing.”

The exercises are to be learnt with the right hand and then with the left; at first a single circle returning without order to the “Steady” position, afterwards as many times as may be considered necessary, six being the usual number.

The clubs are always to be swung in a direct line across the body, neither inclining to the front or rear.

The body should be kept steady, and, unless otherwise stated, the head and eyes to face the front.

The other exercises are combinations of these.

First Exercise.

In Front of the Body, Outside.—Shoot the club out to an angle of 45° , and, letting it fall away from the body, swing it round at the full extent of the arm, in front of the body.

Second Exercise.

In Front of the Body, Inside.—Shoot the club up to a perpendicular position, and, letting it fall towards the body, swing it round at the full extent of the arm in front of the body.

Third Exercise.

Behind the Back, Outside.—Shoot the club out to an angle of 45° , and, letting it fall away from the body, swing it round in a circle behind the back by bending the arm and

carrying the wrist in as close to the point of the shoulder as possible and then shooting it out again.

Fourth Exercise.

Behind the Back, Outside.—Shoot the club up to a perpendicular position, and, letting it fall towards the body, swing it round in a circle behind the back by bending the arm and carrying the wrist down as close to the point of the shoulder as possible and then shooting it up again.

First Combination.

In Front of the Body and Behind the Back, Outside.—Perform the first and third exercises in succession.

Second Combination.

In Front of the Body and Behind the Back, Inside.—Perform the second and fourth exercises in succession.

The preceding four exercises and two combinations to be performed first with the right hand and then with the left.

Combinations with Both Hands.

Both Hands Working Together. In Front of the Body and Behind the Back, Outside. (Double Cross Outwards.) This is the first combination with both hands together. Commence by shooting both clubs outwards at an angle of 45° , and form circles outwards in front of the body, crossing the clubs in doing so, then the same behind the back.

Both Hands Working Alternately. In Front of the Body and Behind the Back, Outside.—This is the first combination with both hands working alternately. Commence shooting both clubs outwards at an angle of 45° , and then the right club forms the circle outwards behind the back at the same time that the left is forming the circle outwards in front of the body and *vice versa*.

Both Hands Working Together. In Front of the Body and Behind the Back, Inside. (Double Cross Inwards.) This is the second combination with both hands together. Commence by shooting both clubs perpendicularly upwards, and form circles inwards in front of the body, crossing the clubs in doing so, and then the same behind the back.

Both Hands Working Alternately. In Front of the Body and Behind the Back, Inside.—This is the second combination with both hands alternately. Commence by shooting both

clubs perpendicularly upwards, and then the right club forms the circle inwards behind the back at the same time that the left is forming the circle inwards in front of the body, and *vice versâ*.

Right Hand in Front of the Body and Behind the Back, Outside. Left Hand in Front of the Body and Behind the Back, Inside. Both Hands Working Together.—This is the first combination with the right hand and the second with the left, both clubs forming circles behind the back together. The head is to be turned to the right, and commence by shooting both clubs out at 45° to the right forming the circles in front of the body first.

A similar combination is to be performed to the left, working the opposite hands.

Right Hand in Front of the Body and Behind the Back, Outside. Left Hand in Front of the Body and Behind the Back, Inside. Both Hands Working Alternately. (Windmill to the Right).—This is the same exercise as the preceding, but the left hand starts a little before the right.

A similar combination (windmill to the left) is to be performed to the left working the opposite hands.

FIXED APPARATUS.

The following exercises with fixed apparatus are divided into two parts, *i.e.* :—

First course.

Advanced course.

Exercises are given for the following apparatus :—

- (a.) Parallel bars.
- (b.) Horizontal bar.
- (c.) Pair of rings.

The exercises with these apparatus require great care and vigilance in supervision. This is the case with all exercises where accuracy of movements is essential to completeness, but peculiarly so with the parallel and horizontal bars, in order to prevent accidents.

Instruction in the use of these should not necessarily be carried out in the order named, but a certain number of exercises should be performed with two or more of the apparatus.

Each exercise should first be set by the instructor in as perfect a manner as possible.

The First Course.

The exercises in the first course are to be employed in conjunction with those in Part I., and Dumb-bell and Wand Exercises, in the progressive training carried out in Training Establishments (see page 3 and group 10 of Tables); also in the further training of young seamen and stokers after they leave the Training Establishments; and in the regular exercise of men.

The exercises in the first course on fixed apparatus lead to those in the advanced course.

For the first course full detail is given for conducting the exercises.

Advanced Course.

This course is chiefly for men desirous of qualifying for the rating of Gymnastic Instructor, but officers and men showing sufficient aptitude should be encouraged to learn the exercises contained in it.

THE PARALLEL BARS.

Two instructors are better when using this apparatus ; one at each bar, with his hands grasping the arm of the performer. This will render a fall impossible. A point requiring very careful observance is, that the legs must not be separated when performing a swinging exercise, and this should be impressed on the seaman.

When carrying out the travelling exercises, the men should follow each other rapidly so as to have three or more on the bar simultaneously.

The "*Ready Position*" is the position of attention between the bars, or facing the entrance, or back to the entrance, according to the exercise.

The position "*Up*" is taken as follows:—"Raise the hands and place them on the bars, the thumbs inside, the fingers outside and pointing downwards. Press from the hands until the arms are completely extended, the head upright, eyes looking to the front; the chest to be well advanced, the shoulders square to the front, the body erect and firm, legs straight and together, toes pointed to the ground." (Fig. 56.)

This may also be performed by springing off the ground with the hands kept at the sides, till they are in line with the bars, when they should grasp the bars as before.

First Course.

The class will be formed up in two ranks standing at ease, the centre of the squad two paces from the end of the bars.

1. *Clearing the Bar to the Front and Rear.*

CAUTION.—*Clear the Right (or Left) Bar to the Front.*

First—File.—The first file will spring to attention.

No. 1 between the Bars—Ready.—No. 1 front rank will step off and place himself between the bars immediately inside the cross piece and stand to attention. No. 1 rear rank will also at the same time place himself opposite the centre of the end of the bars and one pace from them.

On the Bars.—No. 1 front rank will grip the bars smartly at full arms' length, without leaning forward or shrugging the shoulders.

One.—No. 1 front rank will take a pace forward with the left foot quickly followed by the right, rising on the toes so that his hands remain grasping the bars behind him, elbows bent until the forearms are perpendicular to the bars and body upright.

Two.—No. 1 front rank, maintaining the hollow back position, will press up between the bars, allowing the legs to swing to the rear; on the return swing, keeping the legs straight, clear the bar to the front, and as the legs clear the bar let go the right bar with the right hand (Fig. 57) and the left bar with the left hand, transferring the left hand at once to the right bar, which must be grasped at the spot just vacated by the right hand; drop on the toes, bending the knees slightly outwards, keeping the head and body erect. The legs will be at once sharply braced up, the left hand being dropped to the side at the same time, and the position of *Attention* assumed.

Next Man—Ready.—No. 1 front rank will step off and place himself in the same relative position, two paces from the opposite end of the bars, exactly facing the left hand man of the class, and stand at ease. No. 1 rear rank will take the place of No. 1 front rank between the bars. The second file will spring to attention, No. 2 front rank taking the place of No. 1 rear rank, and No. 2 rear rank taking the place of No. 2 front rank; and so on until the whole class has performed the exercise.

CAUTION.—*Clear the Right (or Left) Bar to the Rear.*

First—File.—As before.

No. 1 Between the Bars—Ready.—As before.

On the Bars.—As before.

Swing.—No. 1 front rank will spring up between the bars, allowing his legs to swing well to the front, legs together and toes pointed. On the return swing clear the right bar to the rear (Fig. 58), turning the head to the left in doing so. As the legs clear the bar let go with the left hand, and, still grasping the bar with the right hand, alight on the fore part of the feet as before described, but facing the bars, spring to attention, cutting the right hand smartly to the side.

Next—Ready.—As before, but No. 1 front rank will turn to the right correctly before stepping off.

2. *Pressing between the Bars.*

Caution.—*Pressing between the Bars.*

First Two—Files.—The first two files will spring to attention.

Between the Bars—Ready.—The files named will step off and place themselves between the bars, so as to divide the space evenly when grasping the bars, No. 2 rear rank placing himself one pace from the end of the bars.

On the Bars.—As before.

Up.—Each man will spring to the hollow back position above the bars (Fig. 56).

Bend.—Keeping the head erect, the back hollow, the legs straight and the toes pointed, lower the body slowly by bending the arms until the nipples of the breast are in line with the bars (Fig. 56B).

Stretch.—Press up to the position above the bars.

On the Forepart of the Feet—Down.—Drop lightly on the toes as before and stand to attention. No. 1 front rank and No. 2 rear rank will drop to the front and rear of the ends of the bars respectively, the other two men dropping on the ground immediately beneath their hands.

Next Two—Files.—The files named will spring to attention.

Between the Bars—Ready.—As before. On the word *Ready* the files between the bars will march out, No. 1 front rank taking up his position at the opposite end of the bars exactly facing the left hand man of the class, the remainder forming up in their proper order.

On the Bars.—As before.

Up.—As before. On the word *Up* the two files which have just completed the exercise will stand at ease.

Remaining—Files.—As before.

Between the Bars—Ready.—As before.

On the Bars.—As before.

Up.—As before.

On the Forepart of the Feet—Down.—As before.

Fall In.—As *Between the bars—Ready*, but the whole class will stand at ease on the instructor's word.

In the above, when the seaman has learned the method of performing the exercises, the words of command should be omitted, the exercise being carried out from the command *Ready*,

a distinct pause of slow time being made between each movement.

Advanced Course.

N.B.—Exercises marked γ should be done by instructors and advanced classes showing a "Short Arm Balance." Exercises marked \oplus may be finished with a "back lift."

3. *Single March Forward, Straight Arms.*—Keeping the body steady and in good position, advance the hands alternately a short distance, repeating the movement till the end of the bar is reached.
4. *Single March Backward, Straight Arms.*—As for preceding exercise but moving in the opposite direction.
5. *Double March Forward (or Backward) Bent Arms.*—From the bent arm position at the end of the bars, travel the bars by springing forward (or backward) off both hands a distance of about six inches, retaining the bent arm position. Care must be taken to preserve the position of the head, body, and legs.
6. γ *Travel the Bars to the Front resting on both Bars.*—Come to the Rest on both bars in front at the end of the bar and keeping the knees straight. Grasp the bars in front of the thighs; Elevate the legs, letting them swing to the front, and come to the "Rest" again on both bars. Repeat to the end of the bar.
7. γ *Travel the Bars to the Rear, resting on both Bars.*—Come to the Rest on both bars in rear, grasp the bars close in rear of the thighs. Elevate the legs, letting them swing to the rear again, coming to the Rest on both bars. Repeat to the end of the bar.
8. γ *Travel the Bars to the Front, resting on the Right, Left, or Alternate Bars.*—Come to the Rest on either bar in front at the end of the bar. Then proceed as in Exercise (4), but coming to the Rest on *one* bar. Repeat to the end of the bar, finishing by clearing one bar to the front. \oplus
9. γ *Travel the Bars to the Rear, resting on Right, Left, or alternate Bars.*—Come to the Rest on either bar in rear at the end of the bar. Then proceed as in Exercise (5), but coming to the Rest on *one* bar. Repeat to the end of the bars, finishing by clearing one bar to the rear.
10. \oplus *Short Arm Balance.*—Slightly raise the legs to the front, then swing to the rear until the feet are immediately above the head, keeping the head back and back hollow.

As the feet rise to the rear slowly bend the arms, but without allowing the body to sink below the bars. Gradually check the swing until a balance is obtained, maintaining it as necessary by a slight movement of the wrists (Fig. 59).

This exercise can also be done from the position of rest on either or both bars to the front or rear.

11. *The Hollow Back Back Lift*.—Throw up to a short arm balance with the hands at the ends of the bars, but complete the swing, pressing with the hands as the body falls to the front. The back to be kept hollow and the knees straight until reaching the ground (Fig. 60).

This can also be done from the position of rest on either or both bars to the front.

12. *The Round Back Back Lift*.—Keeping the legs straight throughout, jump up, rounding the back, and as the legs commence to fall, hollow the back, and alight as in 9.

13. *Single March Forwards (or Backwards) with Bent Arm*.—As for Exercise (3), but with arms bent.

14. *Both Hands Leading at the End of the Bars*.—Hang under the ends of the bars from both hands, the legs to the front. Proceed as for the Horizontal Bar, straightening the legs and hollowing the back as the body rises.

15. *Up-start at the End of the Bars*.—Grip the ends of the bars with both hands, standing on the ground, and allow the body to swing between and below the bars, raising the legs well to the front and then proceed as for Horizontal Bar.

This can be done in the centre of the bars.

16. *Clip Out Forward*.—From the "Up" position at the end of the bar facing outwards. Swing the legs to the rear, and when above the bar, open them and shoot clear of the bars to the front, cutting away the hands.

The "Clip out Backwards" is the same as above, with position reversed.

17. *Clip In*.—Start from ground facing the bars, gripping the ends with both hands, arms straight. Press with the arms as for an upstart (keeping them straight); at the same instant bend the knees and spring well off the ground, throw the legs outside and over both bars letting go with the hands, re-grasping the bars as soon as legs are between them.

18. *Long Arm Balance*.—Start from "Up" position. Raise the legs well to the front and then swing to the rear until the legs are above the head, keeping the arms perfectly straight, back hollow and head back. Preserve the balance by the usual motions of the wrists (Fig. 61).

This exercise can be completed by dropping to a short arm balance and back-lift, or by swinging back again between the bars, by the "Clip out" forward, or by letting go with one hand as the body falls to the front, turning at the same time so as to alight facing the bar.

19. *Long Arm Walk*.—Backwards or forwards along the bar holding a long arm balance. Can be done single or double.

A continuation of this exercise is to shift the balance to one bar, or to effect a complete turn and march in the reverse direction.

20. *Pressing from Short Arm Balance to Long Arm Balance*.—Hold a short arm balance and slowly press up to a long arm, lower slowly to short arm.

21. *Travel the Bars, resting on both Bars to the Front showing a Plant*.—Starting with both legs across the bars to the front. Remove the hands and raise the body from the thighs, keeping the legs straight. Allow the body to fall forward, dropping on to the hands, and raise the legs horizontal, holding the plant and repeat to the front.

22. *Double March Forward (or Backwards) showing a Balance*.—Start with a short arm balance at end of bars and travel the bar by a succession of short jumps, preserving the balance.

23. *Single March Forward (or Backwards) showing a Balance*. As for Exercise (20), but moving one hand at a time.

THE HORIZONTAL BAR.

The position of the instructor should vary. But as a general rule he should stand under the bar facing along the line of it to the right or left, according to the exercise.

In the "Swinging Exercises" great care is required, more especially when the exercise is started from above the bar. Constant practice and experience will alone perfect an instructor in this. Except when stated otherwise, the back must be hollowed, the legs straight and close together, with the toes pointed downwards from the body. It should be impressed on the class that, besides improving the appearance of the performance, the extra muscular effort required largely increases the value of the exercise.

The hands should be the width of the shoulders apart and the ordinary grasp, of thumb and fore fingers close together, unless stated to the contrary.

In dropping to the ground the body should always yield by bending the legs and then springing to "Attention" again.

All these exercises start from the position "Ready," which is standing at "Attention" under, or in rear of and facing the bar, as necessary.

First Course.

Up.—Spring up and grasp the bar with the hands the width of the shoulders apart, thumbs close to the fore fingers, nails to the front, arms straight, back hollowed, legs together, toes pointed towards the ground (Fig. 62).

As soon as the bar is grasped, the head and eyes to be directed to the front.

Down.—Drop on the toes, bending the knees, forcing them well apart, and smartly resume the position of "Attention."

1. *Pulling to the Bar with the ordinary Grip.*

Up.—As detailed.

To the Breast—Pull.—Throw the head well back, bend the arms and raise the body until the breast meets the bar.

Lower.—Slowly lower the body to the full extent of the arms, bringing the head forward to the erect position.

Down.—As detailed.

2. *Pulling to the Bar with the Hands Reversed.*

As for (1), but with the hands reversed (Fig. 63.)

NOTE.—After Exercises 1 and 2 have been thoroughly practised, the order “Down” in any subsequent exercise should be carried out by pulling to the breast, and then dropping to the grounds in the manner detailed.

3. *Travelling the Bar.*

Up.—As before, at the end of the bar.

To the Breast—Pull.—As before.

March.—Maintaining the bent arm position, travel to the other end of the bar, by moving first the leading hand and then the other.

Lower—As before.

Down.—As before.

N.B.—This exercise to be carried out to the right and left.

4. *Raising and Lowering the Lower Limbs.*

Up.—As before.

Legs — Raise.—Keeping the legs straight and toes pointed, slowly raise the legs until they are at right angles to the body (Fig. 64).

Lower.—Slowly resume the former position.

Down.—As before.

5. *Right (or Left) Leg Acting.*

Spring from the ground well in rear of the bar. and grasp it with the arms straight; as the body swings to the front, pass the left leg over the bar, gripping it in the hock, the right leg being brought to a perpendicular position, toes pointed. As the body swings to the rear, swing the right leg down, keeping it straight, and at the same time pull with the arms, causing the body to rise above the bar. Immediately unhook the left leg and assume the position of “Attention” (Fig. 65).

Shoot to the Front.—Keeping the arms straight and legs to the bar, allow the body to fall back, pull with the arms, shoot the legs to the front, let go and alight on the toes well in advance of the bar, back well hollowed; and spring smartly to attention.

Advanced Course.

6. *The Slow Circle.*

Spring from the ground and grasp the bar keeping the arms straight, slowly raise the legs until the feet are touching the bar, toes pointed, knees straight. Slowly pull with the arms carrying the legs and body over the bar, coming to the position of "Attention."

The Circle Over is the same as above, but grasp the bar with arms bent at the commencement of the exercise. All movements being done quickly.

7. *The Circle Under.*

Commence as for slow circle, but after raising the legs to the bar, bend the knees and complete the circle under the bar, keeping the arms straight. Force the legs down to their full extent and drop to the ground or return in the reverse direction.

8. *The Back Circle.*

Commence as for Exercise (7), but after passing the legs under the bar raise them to a horizontal position and hollow the back. Keeping the head well back pull with the arms and circle the bar, resting with the body vertical and the bar resting in the hollow of the back. Press up and come to a sitting position on the bar.

The preceding three exercises can be performed with the hands reversed, but, if finishing by a shoot to the front, first regaining the ordinary grip.

9. *Right (or Left) Hand Leading.*

Pull to the breast, then quickly raise the right elbow vertically above the bar slipping the thumb round* (Fig. 66), the left arm following. Press up to the full extent and come to the position of "Attention."

Lower the body slowly (thumbs round), and support it with right arm bent above the bar, allowing the body to turn slightly and steadying it with the left arm below the bar.* Then quickly lower the right arm below the bar, and lower to the full extent.

10. *Both Hands Leading.*

Hang from the bar with thumbs round and proceed as in "Right (or Left) Arm Leading," except that both elbows are raised simultaneously above the bar.

* At this point advanced classes should let go with the lower hand for a few seconds.

11. *Right (or Left) Leg Acting, with Leg Between the Hands.*

As for First Course, Exercise (5), but with the left leg between the hands.

12. *The Up-start.*

Spring from the ground from well in rear of the bar, arms straight. As the body swings to the front raise the toes till they nearly touch the bar, keeping the knees stiff. Retain this position while the body is swinging back and directly it starts to rise in rear of the bar, press strongly with the arms, at the same time force the legs down. The body should come to the position of "Attention" on the top of the bar without having bent the arms.

The above can be done with the hands reversed.

13. *Hock Swing Off.*

Start from the sitting position on the bar, knees apart. Throwing the body and hands forward, slip back into the hocks (Fig. 67). Gripping with the hocks, throw the hands well over the head, at the same time straighten the body which will swing round. When nearly horizontal on the upward swing on the other side of the bar, smartly straighten the legs and alight on the feet.

14. *Split Up.*

Commence as for the upstart, hands close together. Directly the backward swing commences pass both legs smartly outside the hands, gripping the bar with the hocks, and if the exercise has been properly timed, and sufficient swing taken, the body will rise to a sitting position on the bar.

15. *The Clear Circle.*

As for the Circle Over, but in one motion, and as quickly as possible. Instead of coming to the position of "Attention" on the bar, continue pulling as hard as possible, shift the hands on top of the bar and shoot to the rear. The body should never touch the bar during this exercise.

16. *The Short Circle.*

From the position of attention on the bar, throw the legs to the rear, and on the forward swing circle the bar as for a clear circle.

The three following Exercises should first be learnt on a low bar:—

17. *The Short Arm Balance.*

From the position of "Attention" (thumbs round) swing the legs to the front, slightly bending the arms. Then swing the legs to the rear until they are above the head, keeping the head back and back hollow. As the legs rise to the rear, slowly bend the arms and gradually check the swing until a balance is obtained.

18. *The Vault to the Right.*

From the position of "Attention," resting on the bar, raise the legs to the front, and when the legs are in line with the bar, turn the body partly to the left, keeping the head well up and back hollow. When the legs are well to the front, drop to the ground (facing the bar), pushing slightly with the arms.

NOTE.—This may be learned by placing the right leg on the bar (Fig. 68), and then swinging the left leg up to the right and carrying both legs over the bar (Fig. 69).

19. *The Hand Spring.*

As for Exercise (17), but allowing the body to complete the circle. As the body approaches the horizontal position, press with the arms, at the same time let go the bar, and alight on the toes.

The amount of pressure required, and also the exact instant for letting go, must depend on the height of the bar as a rule, the higher the bar the less the pressure required, and the sooner must the bar be let go.

20. *Sit Swing Round Backwards, Hands outside Legs.*

From the sitting position, raise the body off the bar till the arms are straight. At the same instant fall back, gripping the bar with the hocks, and swing round under the bar. When nearly round, care must be taken to grip hard with the hocks, balance in a sitting position on top of the bar.

21. *The Plants.*

(a.) *The Back Plant.*—Commence as for the "Back Circle," but when the feet are through the hands, shoot them straight to the rear and hollow the back, maintaining a horizontal position under the bar, arms straight. Complete the exercise

by raising the legs to a vertical position, keeping the back hollow; or lower slowly to the ground.

(b.) *The Front Plant*.—Hang from the bar, hollow the back and raise the body till it is in a horizontal position under the bar.

22. *The Split Circle.*

Spring up and grasp the bar, bent arms, placing one leg on each side of the bar. Then circle the bar by pulling smartly with the arms. To be done in one motion without checking the slight forward swing of the body, and must be accurately timed.

This can be done with the right or left leg over the bar, and either inside or outside the hands.

23. *The Shoot.*

Start as for the "Split Up" but with the hands apart, as the body swings to the rear shoot the legs between the hands. Retain this position until the top of the backward swing is nearly reached, when press down hard with the hands and shoot over the bar to the ground. The back not to be hollowed when clearing the bar, but the body kept in a sitting attitude.

24. *The Fork Shoot (Right or Left Leg).*

As for right or left leg acting between the hands, but the bar is not gripped by the hook, and the knee straightened as soon as it passes through the hands; and the exercise completed, one leg on either side of the bar.

25. *To Vault and Catch the Bar.*

As for the ordinary vault, but turn more sharply to face the bar, letting go with the hands and instantly re-grasping the bar, arms straight. In performing the vault the body should lay out as far as possible to the front, so that on re-grasping the bar, a full swing will be obtained preparatory to continuing the exercise.

26. *The Swinging Circle, or the German Swing.*

Start as for clear circle, but instead of allowing the legs to go over the bar, lay out to the front till the arms are straight. Swing to the rear and when nearing the top of the swing press

down strongly with the arms, bringing the body into the bar, back hollow.

27. *Attention Drop.*

Start from a sitting position on the bar but with the body straight and almost slipping off to the front. Throw the body smartly back with the hands over the head, back hollow, and land on the feet.

THE PAIR OF RINGS.

In all exercises on this apparatus, the instructor should grasp the right wrist of the seaman with one hand, and as soon as the feet have passed the rings, he should with the other govern the lower limbs in their descent. While the body is turning with the feet in the rings, the instructor should pass his left arm under the waist of the seaman to limit the extent of its descent, always retaining his grasp of the wrist. In the turn with the hands (right and left), the instructor should grasp the right wrist of the seaman, and gradually lower him until his entire weight is on the left and *vice versa*, always grasping the hand that is to relinquish the hold of the ring.

The position of the instructor should be on the right or left of the rings, facing the seaman.

All the exercises start from the position of "Attention" below the rings.

First Course.

1. *The Single Circle.*

Grasp the rings, thumbs outside; lower the body to the full extent of the arms, feet to the front, legs straight and together, toes pointed; lift the feet from the ground and pass them between the rings (Fig. 70), arms and legs straight throughout, and slowly descend to the ground and relinquish the grasp.

2. *The Double Circle.*

Complete the previous exercise, but without quitting the grasp.

Return between the rings to the first position, arms and legs straight throughout. Bend the arms, place the feet on the ground under the rings and quit the grasp.

3. *To Turn on One Hand to Right and Left.*

Complete the single circle, quit the grasp with the left hand, bringing it to the side, drawing up the legs under the body, make a complete turn from left to right, and grasp the ring with the left hand; extend the legs to the front as in the first position. Complete the single circle as before and repeat the

turn on the left hand, grasp the ring with the right hand, extend the legs to the front and come to the position of attention.

Advanced Course.

4. *To Extend the Arms Right and Left.*

Grasp the rings and lower the body to the full extent of the arms, legs to the front and toes pointed as before.

Gradually bend the arms, pulling to the breast, raising the legs in position to the front; sustain the weight of the body on the left hand, keeping it close to the side, extend the right arm to its full extent, and after a pause return it to the side; repeat with the left arm, pause and return it to the side. Lower the body and come to the position of attention.

5. *To Turn with the Feet in the Rings.*

Proceed as in the single circle till the feet are between the rings, separate the feet and place them in the rings.

Continue the action of the circle with the body, slowly separating the knees, lowering and hollowing the back and raising the head.

Raise the trunk to its position at the half circle, take the feet from the rings, straighten the legs, point the toes, and let them gradually descend to the front and come to the "Attention."

6. *To Rise above the Rings Right and Left.*

Grasp the rings and bring the feet to the front as before.

Bend the arms, raising the legs in position, press strongly on the ring with the right palm raising the fore-arm vertically above the ring. Repeat the movement on the left, press strongly with both hands, straighten the arms above the rings, the chest advanced, the head held back, chin up, the legs straight and closed, the toes pointed to the ground (Fig. 71).

In descending, bend the right arm with the left following, pass the right below the ring, the left following, lower the body and come to the "Attention."

Repeat with left hand leading.

7. *To Rise above the Rings, Both Hands Leading.*

Grasp the rings, placing the hands well through till the base of the palm rests upon them, and bring the feet to the front as

before. Bend the arms and at the same instant press strongly on the rings with both hands, and raise both arms vertically above the rings, and rise above the rings to the full extent of the arms. The transition from the bent to the extended position of the arms being made without pause.

In descending, both arms at once, pass them below the rings, lower the body and come to the "Attention."

8. *The Single Circle, Hollow Back.*

Immediately on grasping the rings, hollow the back, throwing the head well back and keeping the feet to the rear.

Lift both feet from the ground and bring them to the front, keeping the back hollowed and the arms straight, and pass them between the rings, slowly descend to the ground, and quit the grasp.

9. *The Double Circle, Hollow Back.*

Proceed as in the previous exercise and complete the single circle, but without quitting the grasp.

Return between the rings and come to the first position, keeping the arms straight and back hollowed throughout.

10. *The Back Plant.*

Proceed as in the single circle until the feet are between the rings, then instead of lowering them to the ground, extend them to the rear until the legs and trunk form one horizontal line (Fig. 72).

Descend by relaxing the extension and come to the "Attention."

11. *The Front Plant.*

Grasp the rings, raise the legs to the front in position, the toes pointed to the front, allow the head and shoulders to fall to the rear, the arms slightly bent, until the legs and trunk form one horizontal line.

Descend by relaxing the extension and come to the "Attention."

12. *To rise above the Rings by the Forward Circle.*

Grasp the rings, placing the hands well through them until each ring crosses the "heel" of the hand; shoot the legs forward and upward so as to bring them above the head between the rings; at the instant when they are perpendicularly above the

head, hollow the back, press firmly downwards on the hands, and rise with both arms above the rings, the legs descending and completing the eirele and the arms rising to their full extension.

13. *To Extend both Arms at once Above the Rings.*

Rise above the rings, right and left.

Slowly let the whole body descend in position between the rings, at the same time extending the arms right and left, pressing strongly downwards with the palms until the arms are at right angles to the body.

To descend, relax the extension and slowly lower the feet to the ground, and come to the "Attention."

14. *Short Arm Balance Above the Rings.*

Rise above the rings, right and left.

Incline the head and shoulders to the front, bending the arms and pressing them close to the sides, and at the same time raise the legs in position to the rear until they are above the head.

To descend, bring the legs to the ground by the front.

15. *Long Arm Balance.*

Complete the previous exercise.

Press strongly with the hands and wrists down upon the rings, and straighten the arms.

To descend, bend the arms and come to the "Short Arm Balance" and then proceed as before.

16. *The Cut-away.*

Grasp the rings lightly. Quickly raise the legs to the front and bend the arms. Separate the legs during the rise, pass them over the head outside the rings, and when they touch the wrists, quit the grasp. At the same instant throw the head backwards and drop to the ground.

17. *The Back Cut-away.*

Grasp the rings lightly, and quickly raise the legs to the front; bend the arms, and without pause, pass the legs straight and together over the head until they are in a horizontal position above the body. Separate them and let them drop upon the wrists, pulling the body sharply to the rings, quit the grasp and drop to the ground.

RULES FOR MEASURING.

Height (without Boots).—The position of "Attention," heels closed, knees braced back, chin raised, head held steady, shoulders square to the front; the heels, hips, shoulders, and head touching the pillar of the standard. Taken to the eighth of an inch.

Weight (as dressed for Gymnastics).—To a quarter of a pound.

NOTE.—The preceding two measurements, when repeated, should always be taken at the same time of day and after the same amount of bodily exertion.

All the following to be skin measurements:—

Chest.—Position of "Attention," arms hanging by the sides, the tape passed round the chest just below the nipples. To be taken to $\frac{1}{4}$ inch.

1. At the end of a forced inspiration, when the lungs are inflated to their fullest capacity.

2. At the end of a forced expiration, when the lungs are depleted.

3. Midway between the normal inspiration and expiration.

Measurements (1) and (2) give the chest expansion.

Measurement (3) gives the normal chest girth. In this measurement care must be taken that the chest is not inflated beyond its usual expansion during ordinary breathing.

Waist.—The circumference of the abdomen two inches below the navel.

The following measurements to be taken to the eighth of an inch:—

Fore-Arm.—The arm extended in line with the shoulder, fist clenched. The tape passed round the thickest part of the arm.

This line will be usually found about two or three inches below the elbow joint, but with men who have taken little exercise it will be found near the elbow joint.

Upper Arm.—Arm extended and bent at the elbow, fist clenched and brought down to the shoulder: this should be done slowly, bending the finger joints, clenching the fist, and bringing the fore-arm down upon the upper arm.

NOTE.—When the whole arm is fully developed, the difference in size between the fore and upper arm in an adult of medium

stature will be about two inches, and it will almost invariably be found that when the upper arm is feeble, the upper region of the chest will be feeble also. With a chest of 40 inches, the arm would be probably 12 or 14 inches.

Calf.—The leg to be held stiff and straight, heels raised from the ground, the toes pressed strongly down and the knees braced well back. The tape is to be passed round the thickest part of the calf, and as this line will somewhat vary with different men, and with the same man in different stages of development, one or two points should be tried, and that which shows the greatest girth selected.

Thigh.—The leg held as in the preceding measurement. The tape to be passed in a horizontal line round the thickest part of the limb, which will be at the highest point of the thigh admitting of horizontal measurement.

NOTES ON THE TABLES.

In the following tables the exercises are described as follows :—

First the Starting Position is given, then the Exercise which is to be done from that position. When no Starting Position is given, the Exercise is to be done in the position of Attention.

The following abbreviations are employed in the names of the starting positions :—

H. on H.	= Hands on Hips.
Rest	= Head Rest.
Stretch	= Arms Upward Stretch.
Foot Forward	= Left (Right) Foot Forward.
B. B.	= Backwards Bend.
F. B.	= Forwards Bend.

TABLE I.

1. (a) Position of Attention, and Standing Easy.
 (b) Dressing with Intervals.
 (c) Opening Ranks.
 (d) Gymnastic Turnings.
2. Hands on Hips, and Head Rest.
3. Left (Right) Foot Forward.
4. Arms Stretching (slow at first to get correct positions).
5. Marching (except "Knees—Up" at the Double).
6. (a) H. on H. Astide.
 (b) H. on H. On the Toes Rise; (later) Double Knee Bend.
7. H. on H. Back Bending Backwards and Forwards (commencing with moderate bend only).
8. (a) The three Hanging Positions; (later) Overgrip. Pull to Breast with assistance.
 (b) Chest Expanding with Wands.

9. Marching on the Toes and Running.
 10. H. on H. Astride. Side Bending (slow in four motions).
 11. Arms Raising.
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TABLE II.

1. Marching (except "Knees—Up" at the Double).
 2. Arms Stretching.
 3. H. on H. Astride. Back Bending Backwards, Forwards, and Downwards.
 4. H. on H. On the Toes Rise.
 5. (a) The three Hanging Positions; and Overgrip. Pull to Breast with assistance.
(b) Wall Bars—Raise and Lower the Knees.
(c) Inclined Rope—Starting Position.
 6. H. on H. Double Knee Bend.
H. on H. Lunging.
 7. Arms Swinging.
 8. H. on H. Astride. Side Bending (slow in four motions).
 9. (a) Arms Striking.
(b) Chest Expanding with Wands.
 10. (a) Marching and Running.
(b) Jumping Off the Left and Right Foot.
 11. Arms Raising.
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TABLE III.

1. Marching.
2. (a) Span Bend, without grasp, at one foot length from Bars.
(b) H. on H. Back Bending Backwards and Forwards.
3. (a) Arms Stretching.
(b) Over and Under Grip. Pull to Breast with assistance.
(c) Wall Bars—Raise and Lower the Knees.

4. (a) H. on H. Alternate Knee Raising (slow in four motions).
(b) H. on H. Leg Raising Sideways.
5. (a) Arms Swinging.
(b) Lying Position on Bench. H. on H.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. H. on H. Lower and Raise Body.
(b) Pressing from Ground.
8. (a) H. on H. Astride. Trunk Turning (slow in four motions).
(b) H. on H. Astride. Side Bending (slow in four motions).
9. H. on H. On the Toes Rise.
10. Chest Expanding with Wands.
11. (a) Long Jump, individually—moderate length only to get correct style.
(b) Single Beam. Introduction to Vaulting. (Beam below Breast Height.)
12. (a) Arms Striking.
(b) Arms Circling and Rise on Toes.

TABLE IV.

1. Marching.
2. (a) Span Bend, without grasp, at two foot lengths from Bars.
(b) H. on H. Back Bending Backwards and Forwards.
3. (a) Arms Stretching.
(b) Alternate Grip. Pull to Breast with assistance.
(c) Wall Bars—Alternate Knee Stretching (in four motions).
(d) Inclined Rope—Introduction to Climbing (changing the legs only).
4. (a) H. on H. Leg Raising Sideways.
(b) H. on H. Leg Stretching Backwards, *alternate with*:
H. on H. Leg Stretching Forward.
5. (a) Arms Striking.
(b) Lying Position on Bench—Stretch.

6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. H. on H. Lower and Raise Body.
(b) Pressing from Ground.
8. (a) Rest. Astride. Trunk Turning (slow in four motions)
(b) Rest. Astride. Side Bending (slow in four motions).
9. H on H. Double Knee Bend.
10. Chest Expanding with Wands.
11. (a) Jumping. High and Long Jump, individual.
(Moderate jumps to get right style.)
(b) Single Beam. Horizontal Vault.
12. (a) Foot Forward. Arms Striking.
(b) Arms Raising and Rise on Toes.

TABLE V.

1. Marching.
2. (a) Span Bend. On the Toes Rise. (Two foot lengths from Bars.)
(b) Stretch. Back Bending Backwards, Forwards, and Downwards.
3. (a) Alternate and Over (or Under) Grip. Pull to Breast with assistance.
(b) Wall Bars—Alternate Knee Stretching (four motions).
(c) Inclined Rope—Climb Head First and descend (by numbers).
4. (a) H. on H. Leg Stretching Backwards and Forwards.
(b) Rest. Leg Raising Sideways.
5. (a) Lunge. Arms Stretching.
(b) Lying on Bench. Arms Striking.
6. Marching and Running, followed by Breathing Exercise.
7. (a) Sitting Down. H. on H. Lower and Raise Body.
(b) Pressing from Ground.
8. (a) Stretch. Astride. Trunk Turning (slow in four motions).
(b) Stretch. Astride. Side Bending (slow in four motions)
9. H. on H. Astride. On the Toes Rise.

10. Chest Expanding, *and* Dumb-bell Exercises.
 11. (a) High and Long Jump (individually).
 (b) Single Beam—Horizontal Vault.
 (c) Horse—On the Knees and Off.
 12. (a) Foot Forward. Arms Striking.
 (b) Arms Circling.
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TABLE VI.

1. Marching.
2. (a) Span Bend. Astride. On the Toes Rise (two foot lengths from Bars).
 (b) Stretch. Astride. Back Bending Backwards, Forwards, and Downwards.
3. (a) Arms Stretching.
 (b) Alternate and Under (or Over) Grip. Pull to Breast.
 alternately with: Double Ropes—Pulling Up.
 (c) Wall Bars—Alternate Knee Stretching (two motions).
 (d) Inclined Rope—Climb Head First and Descend.
 alternately with: Vertical Rope—Left hand leading, Hands and Feet.
4. (a) Beam at Knee Height. Standing and Cross Standing Positions, and later Preliminary Foot Movements.
 (b) Rest. Leg Stretching Backwards and Forwards.
 Stretch. Leg Raising Sideways.
5. (a) Foot Forward. Arms Swinging.
 (b) Lying on Bench. Arms Stretching.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. Incline. Arms Stretching.
 (b) Pressing from ground, *and* Raise and Lower Legs.
8. (a) Rest. Astride. Trunk Turning (quick in four motions).
 (b) Rest. Astride. Side Bending (quick in four motions).
9. H. on H. Double Knee Bend. (Quick Knee Stretching.)
10. Wand Exercises. *alternately with: Dumb bell Exercises.*

11. (a) Jumping as before.
 (b) Single Beam—Horizontal and Flank Vaults.
 (c) Horse—On Knees and Off, *and* On the Feet and Off.
 12. (a) Arms Raising.
 (b) Arms Circling.
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TABLE VII.

1. Marching.
2. (a) Span Bend. Astride. On the Toes Rise (three foot lengths from Bars).
 (b) Support. Stretch. Back Bending Backwards.
3. (a) Pull to Breast, *alternately with*: Double Ropes—Pulling Up.
 (b) Wall Bars—Alternate Knee Stretching (two motions).
 (c) Inclined Rope—Climb Head First and Descend, *alternately with*: Vertical Rope—Right Hand Leading, Hands and Feet.
4. (a) Beam at Knee Height—March Forward one Foot Leading.
 (b) Same as Table VI.
5. (a) Foot Forward. Arms Swinging.
 (b) Lying on Bench. Arms Striking.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. Incline. Arms Stretching.
 (b) Pressing from Ground, *and* Raise and Lower the Legs.
8. (a) Working the Hips (slow).
 (b) Stretch. Trunk Turning (slow in two motions).
9. Arms Circling.
10. (a) Dumb-bell or Wand Exercises.
 (b) Parallel Bars—Clear the Right and Left Bars to the Front and Rear.
 (c) Horizontal Bar—Raise and Lower the Legs with assistance.
11. (a) Jumping as before.
 (b) Single Beam—Running Horizontal Vault, *and* Flank Vault.

- (c) Horse—On the Knees and Off; On Feet and Off;
and Round Back between Hands.
12. (a) Lunge. Arms Striking.
(b) Arms Raising and Double Knee Bend.

TABLE VIII.

1. Marching.
2. (a) Span Bend. Alternate Knee Raising (in four motions).
(b) Astride. B. B. Arms Stretching.
3. (a) Circle Beam, return, and pull to Breast.
Beam. Hand over Hand Backwards, with assistance.
(b) Wall Bars.—Double Knee Stretching.
(c) Inclined Rope—Climb Head First and Descend;
alternately with:
Vertical Rope—Left Hand Leading, Hands and Feet.
4. (a) Beam at Knee Height—Balance March Forward, and
Cross Balance March.
(b) Rest. Leg Stretching Backwards and Forwards.
5. (a) Lunge. Arms Striking.
(b) Lying on Bench. H. on H. Back Bending Forwards
and Downwards.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. Incline. Arms Stretching.
(b) Pressing from Ground, *and* Raising and Lowering the
Legs.
8. (a) Working the Hips (quickly).
(b) Stretch. Astride. Trunk Turning (quickly in four
motions).
9. H. on H. Astride. Double Knee Bend.
10. (a) Dumb-Bell or Wand Exercises.
(b) Parallel Bars—Clear Right and Left Bar to front and
rear; Press between Bars.
(c) Horizontal Bar—Raise and Lower Legs; Leg Acting
and Shoot to front.

11. (a) Jumping as before.
 - (b) Single Beam—Running Horizontal Vault, *and* Flank Vault along the Beam.
 - (c) Horse—On the Feet and Off, Round Back between Hands, and Flank Vault.
 12. (a) Foot Forward. Arms Striking.
 - (b) Arms Raising and Double Knee Bend.
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TABLE IX.

1. Marching.
2. (a) Span Bend. Alternate Knee Raising (in two motions).
- (b) Stretch. Foot Forward. Back Bending Backwards, Forwards, and Downwards.
3. (a) Double Ropes—Pulling Up.
- (b) Wall Bars—Double Knee Stretching.
- (c) Bridge Ladder—Hand over Hand Backwards with assistance.
- (d) Inclined Rope — Climb Head First and Descend :
 alternately with :
 Vertical Rope—Right Hand Leading, Hands and Feet.
4. (a) Beam at Knee Height—Balance March Forward, *and* Double Knee Bend.
- (b) Stretch. Leg Raising Sideways.
5. (a) F. B. Arms Stretching.
- (b) Lying on Bench. H. on H. Back Bending Forward and Downward.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. Stretch. Lower and Raise Body.
- (b) Pressing from Ground.
8. (a) Foot-hold. H. on H. Side Bending.
- (b) H. on H. Astride. Trunk Turn and Bending Backwards and Forwards.
9. Lunging. H. on H. ; *and* H. on H. Double Knee Bend.
10. (a) Dumb-Bell or Wand Exercises.
- (b) Parallel Bars—Same as in Table VIII.

- (c) Horizontal Bar—Leg Acting and Shoot to front
Circle over and Shoot to front.
11. (a) Jumping as before.
(b) Beam (Single) Flank Vault along Beam. (Double).
Face Vault.
(c) Horse—Round Back Between Hands; Right Hand
Vault; *and* Horizontal Vault.
12. (a) Arms Raising and Rise on Toes.
(b) Arms Circling.

TABLE X.

1. Marching.
2. (a) Span Bend Alternate Knee Raise and Stretch.
(b) Support B. B. Arms Stretching.
3. (a) Circle Beam, return, and Pull to Breast; Beam or
Bridge Ladder—Hand over Hand Backwards;
alternately with : Right Hand Leading Alternate
Grip.
(b) Wall Bars—Leg Parting.
(c) Inclined Rope—Climb Head First, and Descend;
alternately with :
Vertical Rope—Both Hands Leading, Hands and
Feet : *or*
Double Ropes—Hand over Hand (short distance).
4. (a) Beam at Hip Height. Balance March Forward;
alternately with : Balance March Backwards, One
Foot Leading; *and* Leg Raising Sideways.
(b) Single Knee Bend.
5. (a) Lunge. Arms Swinging.
(b) Lying on Bench. Stretch. Back Bending Forward
and Downward.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. Stretch. Lower and Raise Body.
(b) Span Bend. Rise on Toes.
8. (a) Foot-hold. Rest. Side Bending.
(b) Stretch. Trunk Turning (quickly in two motions).
9. Rest. Astride. Double Knee Bend.

10. (a) Dumb-Bell or Wand Exercises.
 - (b) Parallel Bars—Same as Table VIII., *and* Single March Forward, straight arms.
 - (c) Horizontal Bar -- Same as Table IX., *and* Circle Under.
 - (d) Rings—Single Circle.
11. (a) Jumping as before, and by Files.
 - (b) Beam—(Single) Flank Vault along Beam. Running Horizontal Vault. (Double) Face Vault.
 - (c) Horse—Round Back Between Hands; Flank Vault; Horizontal Vault; On the Feet and Off (Horse Lengthways).
12. (a) Arms Circeling.
 - (b) Arms Raising and Double Knee Bend.

TABLE XI.

1. Marching.
2. (a) Span Bend. Alternate Leg Raising (four motions).
 - (b) Foot Forward. B. B. Arms Stretching.
3. (a) Leg Acting on Beam, return, and Pull to Breast.

Beam or Bridge Ladder—Hand over Hand Backwards; *alternately with* :

Beam—Over or Under Grip. Right Hand Leading.

 - (b) Wall Bars—Leg Parting (quickly).
 - (c) Inclined Rope—Climb Head First and Descend; *alternately with* :

Vertical Rope—Both Hands Leading, Hands and Feet, *or*

Double Ropes—Hand over Hand.
4. (a) Beam at Hip Height—Balance March Forward and Backward; *and* Turn about; *alternately with* :

Cross Balance March; *and* Leg Raise Sideways or Stretch Backwards and Forwards.

 - (b) Single Knee Bend.
5. (a) F. B. Arms Striking.
 - (b) Lying on Bench. Arms Stretching.
6. Marching and Running, followed by a Breathing Exercise.

7. (a) Foot-hold. H. on H. Lower and Raise Body.
(b) Press from Ground ; *and* Raise and Lower the Legs.
8. (a) Stretch. Astride. Side Bend (slow in two, then quick in four motions).
(b) Rest. Astride. Trunk Turn and Side Bending.
9. Stretch. Astride. Double Knee Bend.
10. (a) Dumb-bell *or* Wand Exercises.
(b) Parallel Bars—Press Between Bars, *or* Single March Forward ; *and* Travel Bars to Front, resting on both Bars.
(c) Horizontal Bar—Same as Table X.
(d) Rings—Double Circle.
11. (a) Jumping as before, and by Files.
(b) Beam — (Single) Running Horizontal Vault, *and* Flank Vault along Beam. (Double) Face Vault ; *and* Back Vault.
(c) Horse—Same as Table X.
(d) Shelf—One Rank on the Shelf.
12. (a) Lunge. Arms Striking.
(b) Arms Raising and Rise on Toes.

TABLE XII.

1. Marching.
2. (a) Span Bend. Alternate Leg Raising (in two motions).
(b) Support. B. B. Arms Stretching.
3. (a) Bridge Ladder—Hand over Hand Backwards *or* Right Hand Leading, by side.
(b) Inclined Rope—Climb Head First and Descend, *alternately with* :
Vertical Rope—Both Hands Leading, Hands and Feet, and descend Hand over Hand without the Feet ; *or* Double Ropes—Hand over Hand.
4. (a) Beam at Breast Height—Balance March Forward and Backward with Turning ; *and* Leg Stretching Backwards and Forwards.
(b) Low March.
5. (a) F. B. Astride. Arms Stretching
(b) Lunge. Arms Swinging.

6. Marching and Running, followed by a Breathing Exercise.
7. (a) Foot-hold. Stretch. Lower and Raise Body.
(b) Wall Bars—Double Knee Stretching.
8. (a) Foot-hold. Stretch. Side Bending.
(b) Stretch. Astride. Trunk Turn, and Back Bending Backwards and Forwards.
9. Double Knee Bend. Arms Stretching.
10. (a) Dumb-bell or Wand Exercises.
(b) Parallel Bars—Press between Bars; Travel Bars to Front and Rear, resting on both bars.
(c) Horizontal Bar—Circle Under; Leg Acting; Slow Circle.
(d) Rings—Double Circle; Turn on One Hand to Right and Left.
11. (a) Jumping as before, and by Files.
(b) Beam—Same as Table XI.
(c) Horse—Horizontal Vault; Round Back between Hands; On Feet and Off (Horse Lengthways); Left Foot on and Back Lift (Horse Lengthways).
(d) Shelf—One Rank on the Shelf.
12. (a.) Lunge. Arms Striking.
(b) Arms Circling.

TABLE XIII.

1. Marching.
2. (a) Span Bend. Alternate Leg Raising and Rise on Toes; *alternately with*:
Span Bend in Ranks and Rise on Toes.
(b) Foot Forward. B. B. Arms Stretching.
3. (a) Beam—Hand over Hand, pulling to Breast; *alternately with*:
Bridge Ladder—Hand over Hand Backwards.
(b) Inclined Rope—Climb Head First and Descend; Change from Head to Legs First; Introduction to Climbing Legs First (changing the legs only); *alternately with*:
Vertical Rope—Hand over Hand, Up and Down, or

Double Ropes—Hand over Hand, and descend Both Hands Leading.

4. (a) Beam at Breast Height—Balance March Forward and Backward; *alternately with*:
Balance March, dropping on one Knee.
(b) Low March.
 5. (a) Lunge. Arms Swinging.
(b) Lunge. Arms Stretching.
 6. Marching and Running, followed by a Breathing Exercise.
 7. (a) Foot hold. Rest. Lower and Raise Body.
(b) Wall Bars—Leg Parting.
 8. (a) Stretch. Astride. Side Bending (quickly in two motions).
(b) Stretch. Trunk Turn and Side Bending.
 9. H. on H. Astride. Double Knee Bend (quick knee stretching).
 10. (a) Dumb-bell or Wand Exercises.
(b) Parallel Bars—Travel Bars to Front and Rear, resting on Right and Left Bars alternately; Single March Forward.
(c) Horizontal Bar—Slow Circle; Leg Acting; Back Circle.
(d) Rings—Same as Table XII.
 11. (a) Jumping as before, and by Files or Fours.
(b) Beam—(Single) Flank Vault along Beam. (Double) Face Vault; Back Vault; *and* Forward Vault.
(c) Horse—Flank Vault; Round Back between Hands; Left Foot on and Back Lift (Horse Lengthways); *and* Split Over, hands on fore end (Horse Lengthways).
(d) Shelf—One Rank on the Shelf.
 12. (a) Arms Striking.
(b) Arms raising and Double Knee Bend.
-

TABLE XIV.

1. Marching.
2. (a) Span Bend. Astride. Arms Bend; *alternately with* :
Span Bend in Ranks and alternate Knee Raising.
- (b) Support. B. B. Arms Stretching.
3. (a) Beam. Leg Acting and Shoot to Front.
- (b) Beam. Hand over Hand, pulling to Breast; *alternately with* :
Alternate Grip Right Hand Leading.
- (c) Wall Bars—Double Knee Stretching.
- (d) Inclined Rope—Climb Head First and Descend ;
Climb Legs First, change and descend ; *alternately with* :—Double Ropes—Both Hands Leading, or
Vertical Ropes—Right Hand Leading, Hands and Feet, and descend Hand over Hand.
4. (a) Beam at Head Height—Balance March Forward and Backward with Turning; *and* Balance March Dropping on one Knee ; *alternately with* :
Beam at Breast Height—Low March ; Single Knee Bend.
5. (a) F. B. Astride. Arms Striking.
- (b) Lying on Bench. Arms Stretching; *and* Lying on Bench—Stretch. Bending Forward and Downward.
6. Marching and Running. Followed by a Breathing Exercise.
7. (a) Foot-hold. Lower Body. Arms Stretching.
- (b) Hand Standing.
8. (a) Wheeling.
- (b) Stretch. Trunk Turn and Bending Backwards and Forwards.
9. Astride. Double Knee Bend. Arms Stretching.
10. (a) Dumb-bell or Wand Exercises.
- (b) Parallel Bars—Exercises previously learned as necessary ; and Round Back ; Back Lift.
- (c) Horizontal Bar.—Slow Circle ; Back Circle ; Right and Left Hand Leading.
- (d) Rings—Turn on one Hand to Right and Left ; Turn with feet in Rings.

11. (a) Jumping as Before, and by Files or Fours.
 - (b) Double Beams—Face Vault; Back Vault; Forward Vault; Shoot Between.
 - (c) Horse—Flank Vault; Round Back between Hands; Clear Jump; Left Foot on and Back Lift (Horse Lengthways); Split Over (Horse Lengthways).
 - (d) Shelf—One Rank on the Shelf.
12. (a) Arms Raising.
 - (b) Arms Circling.

TABLE XV.

1. Marching.
2. Span Bend. Astride. Hand Walk, Left and Right Hand Leading (Two Shifts of each Hand by Numbers); *alternately with*: Span Bend in Ranks, and alternate Knee Raise and Stretch.
3. (a) Beam. Hand over Hand, and Pulling to Breast; *alternately with*:
Both Hands Leading under Beam or Bridge Ladder.
- (b) Wall Bars—Leg Parting.
- (c) Inclined Rope—Climb Legs First, change, climb Head First, and Descend; *alternately with*: Vertical Rope—Same as Table XIV., or Double Ropes—Hand over Hand.
- 4 (a) Beam at Reach Height—Balance March Forward with Turning, and Double Knee Bend; *alternately with*: Beam at Head Height—Low March, and a Leg Exercise.
5. (a) F. B. Astride. Arms Swinging.
- (b) Lying on Bench. Arms Striking; and Stretch. Bending Downwards.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Foot-hold. Lower Body. Arms Stretching; or Sitting Down. Stretch. Lower and Raise Body.
- (b) Hand Standing.
8. (a) Wheeling.
- (b) Stretch. Astride. Trunk Turn and Side Bending.

9. Hon. H. Double Knee Bend ; *or* other Leg Exercise.
 10. (a) Dumb-bell *or* Wand Exercises.
 (b) Parallel Bars—Same as Table XIV. *and* Hollow Back Back Lift.
 (c) Horizontal Bar—Exercises previously learned as necessary ; *and* Upstart.
 (d) Rings—Exercises previously learned as necessary.
 11. (a) Jumping as before, and by Files or Fours.
 (b) Double Beams—Vaulting and Shooting Between Double Beams, *and* Standing High Vault over.
 (c) Horse—Horizontal Vault ; Clear Jump ; Back Lift ; Split over (Horse Lengthways).
 (d) Shelf—Both Ranks on the Shelf.
 12. (a) Foot Forward. Arms Striking.
 (b) Arms Raising and Double Knee Bend.
-

TABLE XVI.

1. Marching.
2. Span Bend. Astride. Hand Walk, Left and Right Hand Leading ; *alternately with* : Span Bend in Ranks and Alternate Leg Raising.
3. (a) Beam—Change Walk ; *alternately with* : Bridge Ladder—Hand over Hand Backwards.
 (b) Same as Table XV.
 (c) Inclined Rope—Climb Head First, change, Climb Legs First, Change, and Descend ; Climb, Legs First, and Descend ; *alternately with* : Same as Table XV.
4. (a) Beam at Reach Height.—A Balance March *and* a Leg Exercise, *or* as necessary.
5. (a) Foot Forward. Arms Swinging.
 (b) Lying on Bench. Arms Stretching ; *and* Stretch Bending Downwards.
6. Marching and Running, followed by a Breathing Exercise.
7. (a) Sitting Down. Stretch. Lower and Raise Body.
 (b) Hand Standing in Ranks, *or* other Abdominal Exercise.

8. (a) Stretch. Trunk Turning (quickly in two motions).
(b) Wheeling; Plant from Wall Bars; *or* other Flank Exercise.
 9. Same as Table XIV.
 10. (a) Dumb-bell *or* Wand Exercise.
(b) Parallel Bars—Same as Table XV.; *and* Short Arm Balance.
(c) Horizontal Bar—Same as Table XV.; *and* Hock Swing Off.
(d) Rings—Same as Table XV.
 11. (a) Jumping as before, and by Files or Fours.
(b) Beams—Vaulting Over and Between Single and Double Beams.
(c) Horse-Vaulting, Jumping, and High Vault.
(d) Shelf—Both Ranks on the Shelf.
 12. (a) Arms Raising and Rise on Toes.
(b) Arms Circling.
-



FIG. 1.



FIG. 2.



FIG. 3.

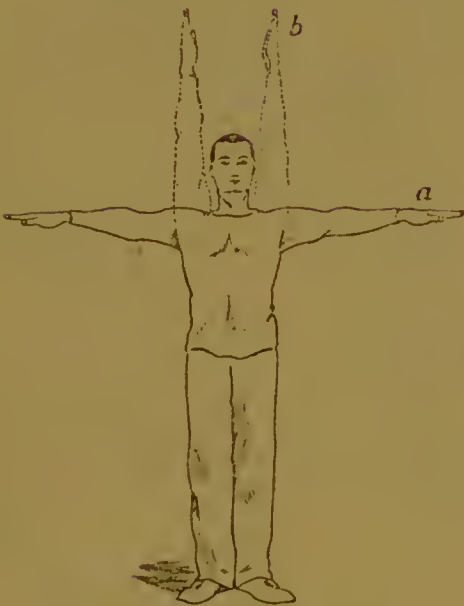


FIG. 4.



FIG. 5.



FIG. 6.



FIG. 6A.

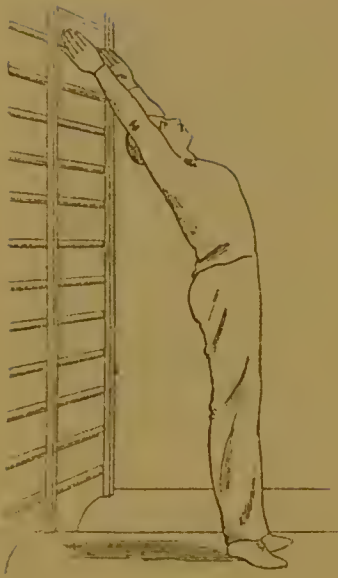


FIG. 7.

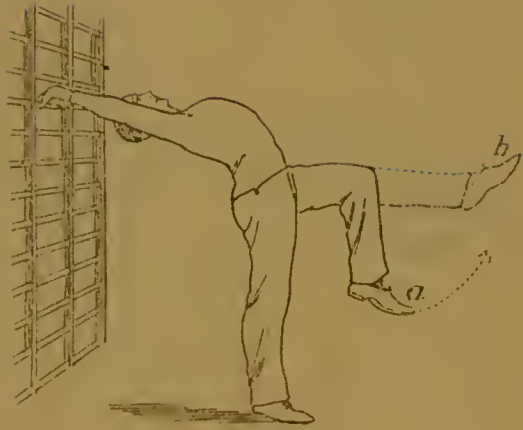


FIG. 8.



FIG. 9.

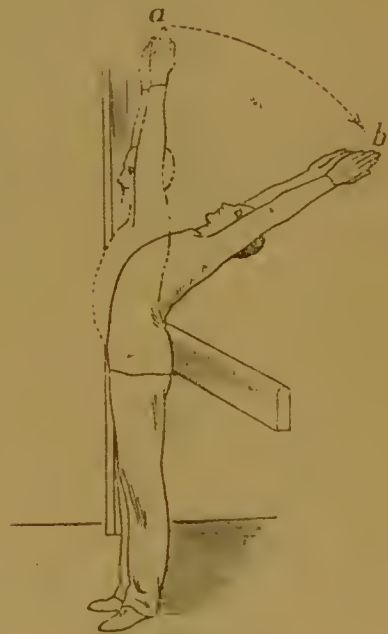


FIG. 10.



FIG. 11.



FIG. 12.



FIG. 13.

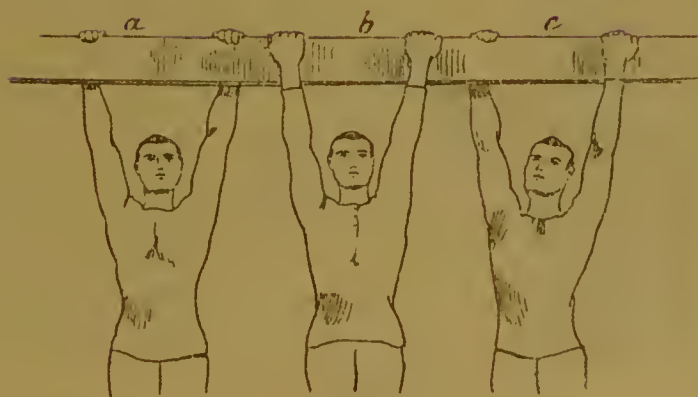


FIG. 14.

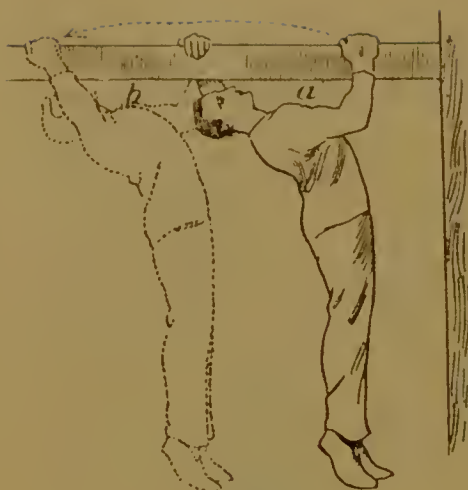


FIG. 15.

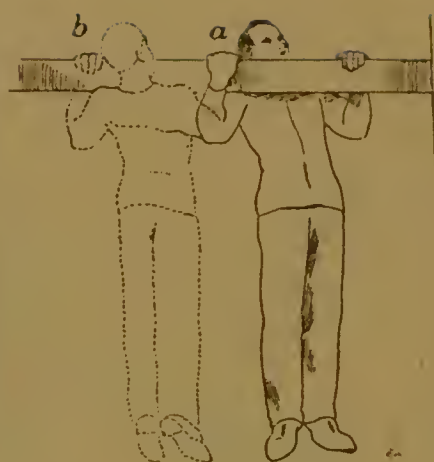


FIG. 16.

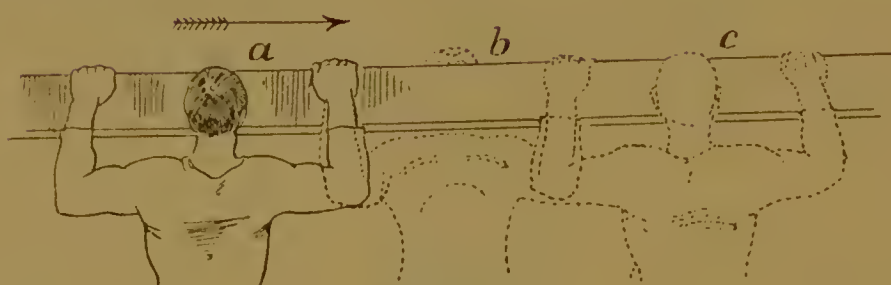


FIG. 17.

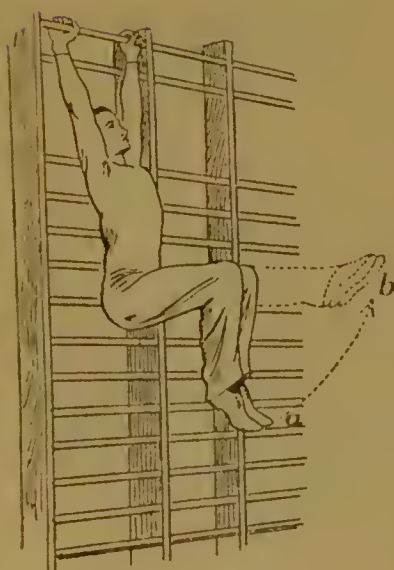


FIG. 18.

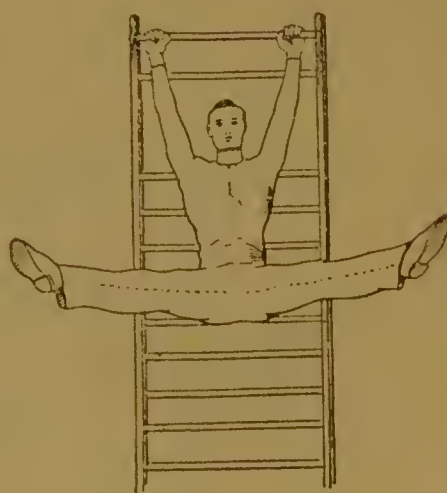


FIG. 19.

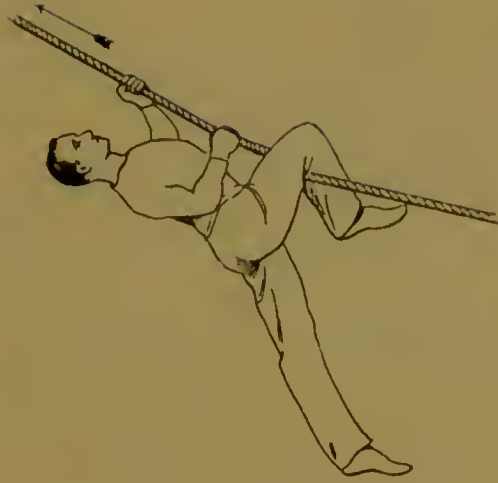


FIG. 20.



FIG. 21.

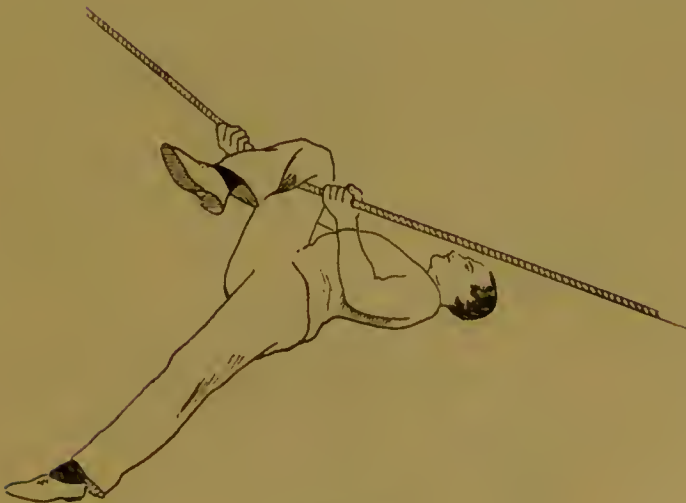


FIG. 22.



FIG. 23.



FIG. 24.

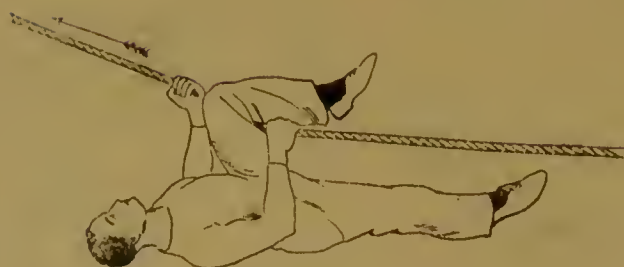


FIG. 25.



FIG. 26.

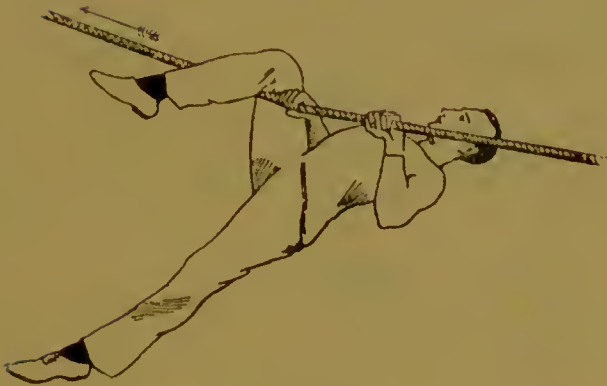


FIG. 27.



FIG. 28.



FIG. 29.



FIG. 30.



FIG. 31.



FIG. 32.



FIG. 33.



FIG. 34.



FIG. 34 B.

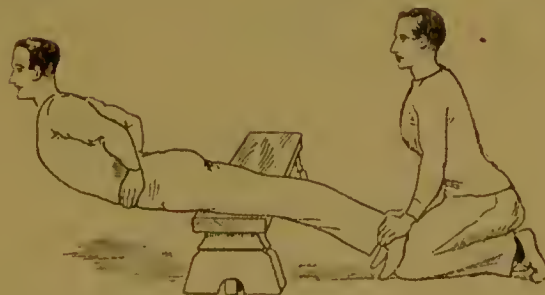


FIG. 35.

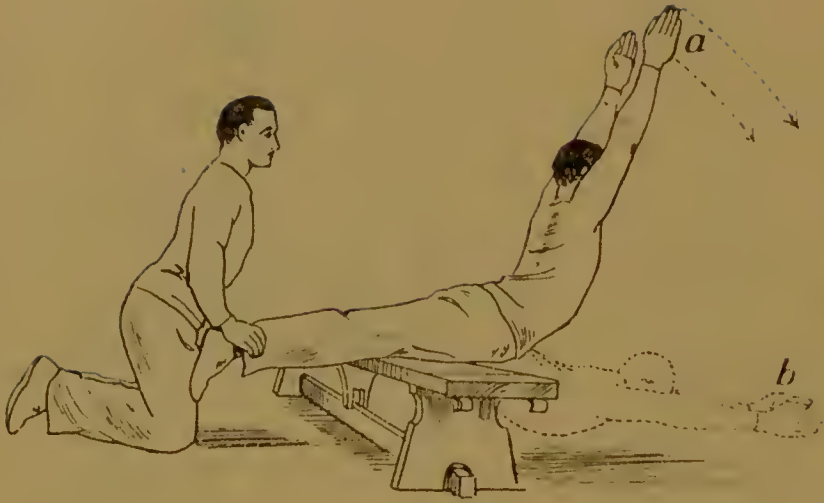


FIG. 36.



FIG. 37,



FIG. 38.



FIG. 39.



FIG. 40.



FIG. 41.



FIG. 42.



FIG. 43.



FIG. 44.

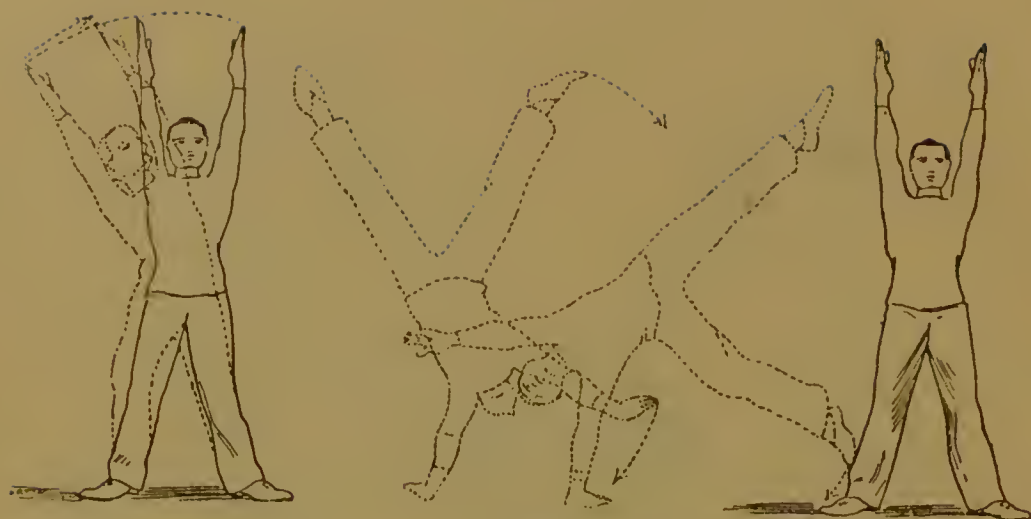


FIG. 45.

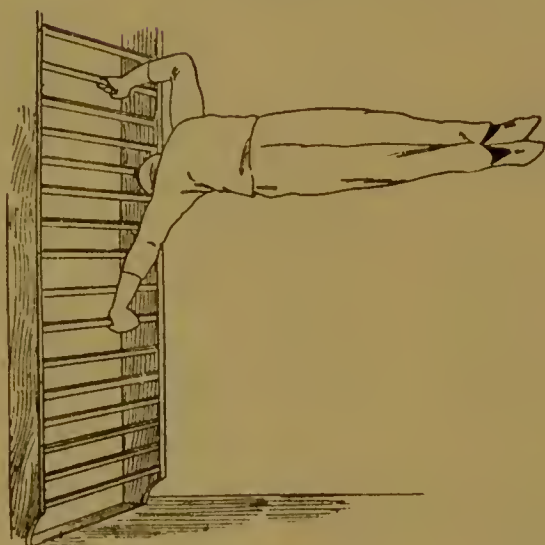


FIG. 46.



FIG. 47.

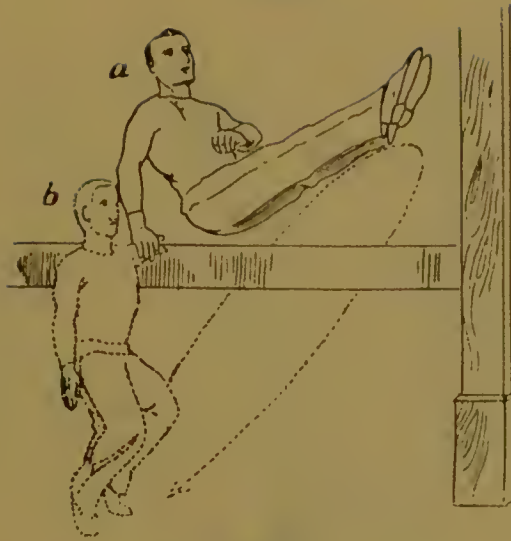


FIG. 48.

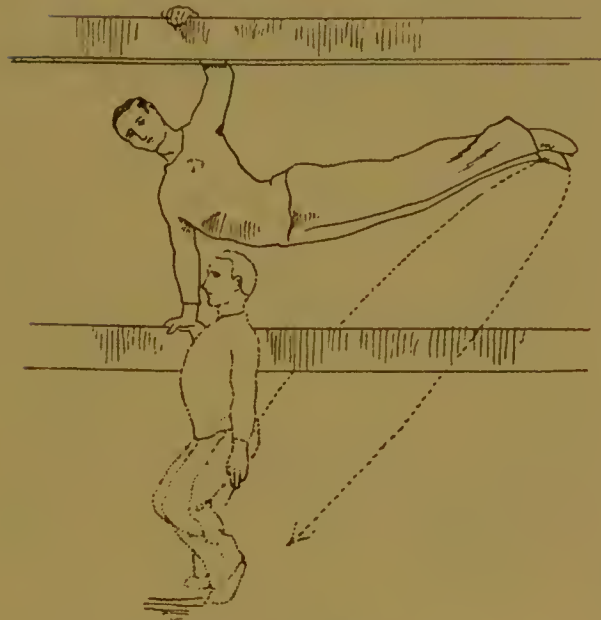


FIG. 49.

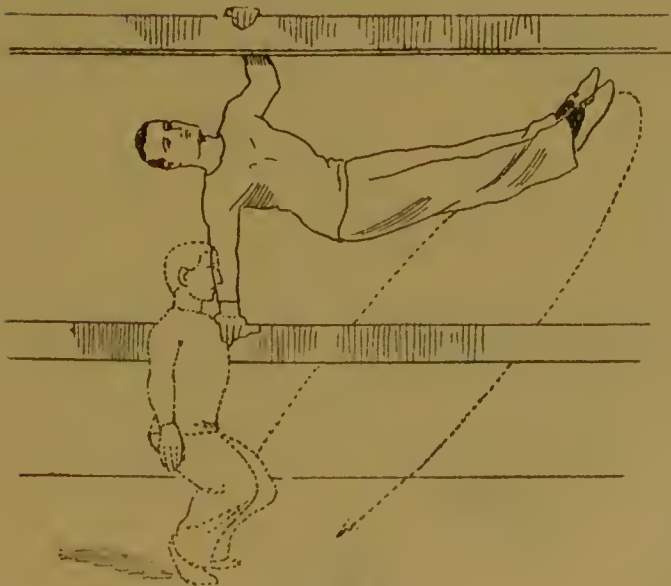


FIG. 50.

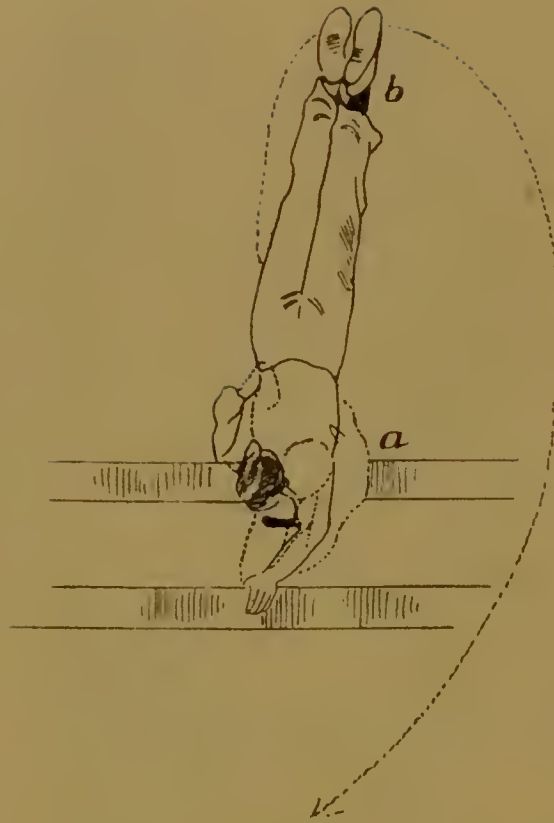


FIG. 51.

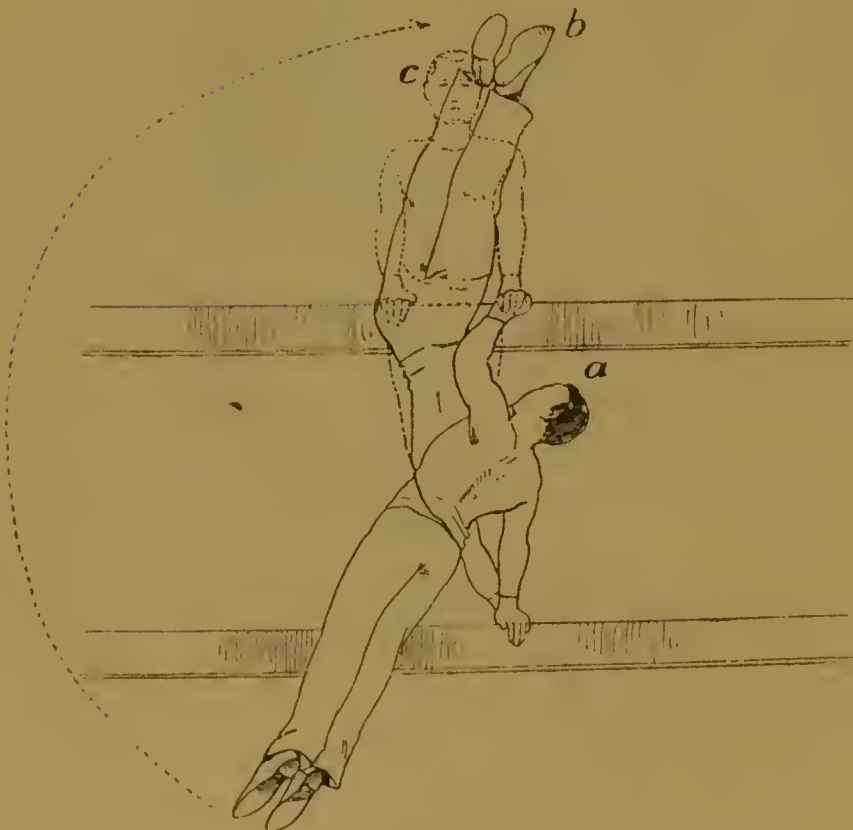


FIG. 52.

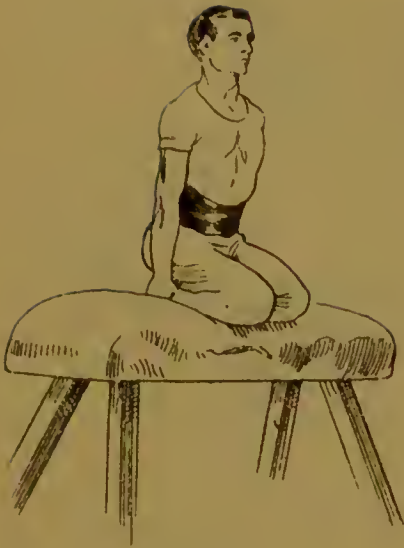


FIG. 53.



FIG. 54.



FIG. 55.

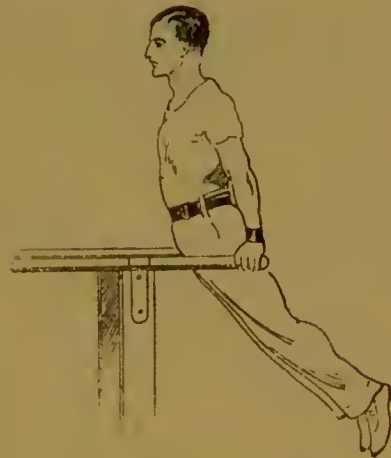


FIG. 56.

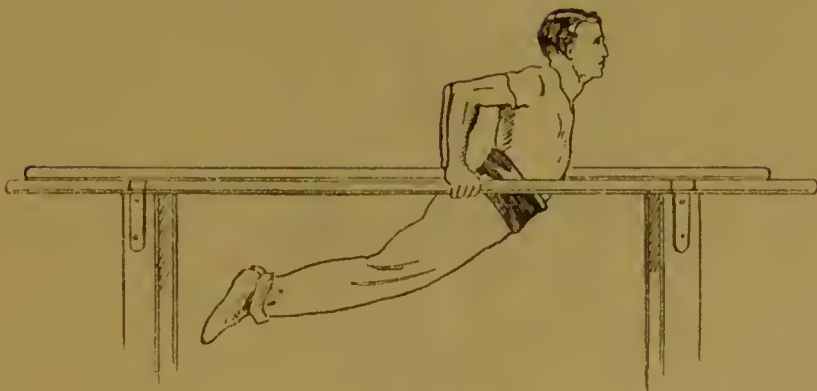


FIG. 56 B.

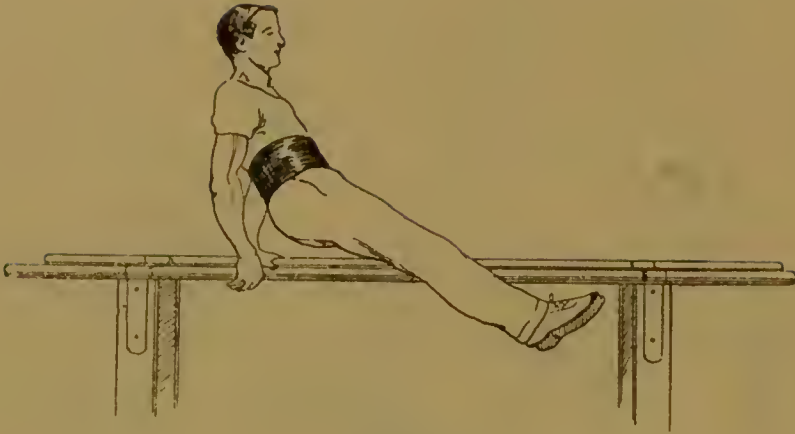


FIG. 57.

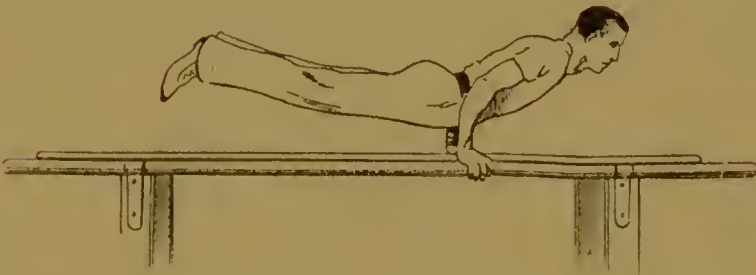


FIG. 58.



FIG. 59.

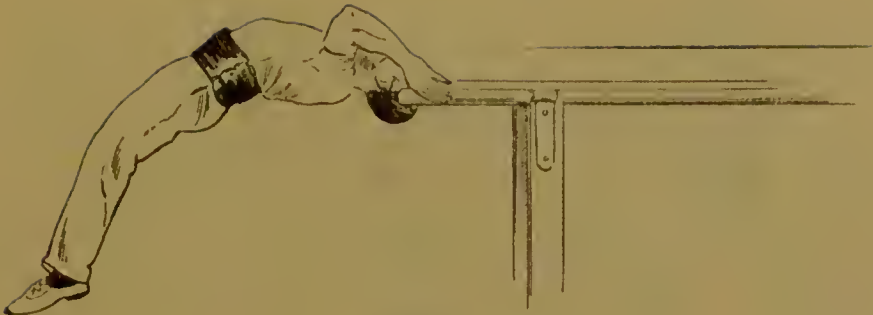


FIG. 60.



FIG. 61.

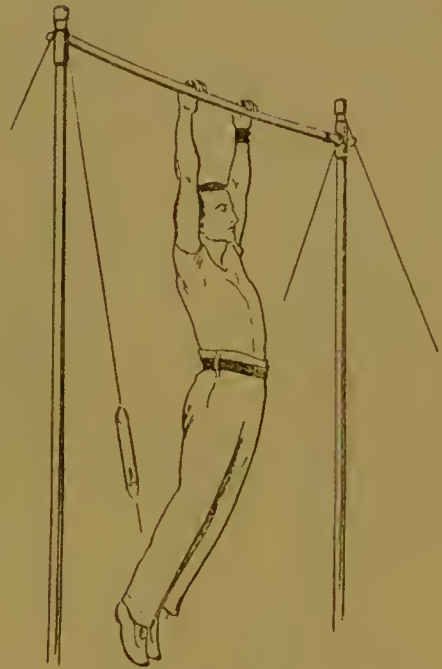


FIG. 62.

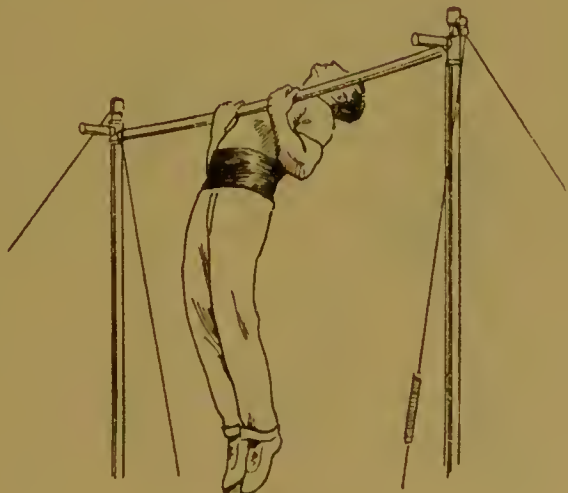


FIG. 63.

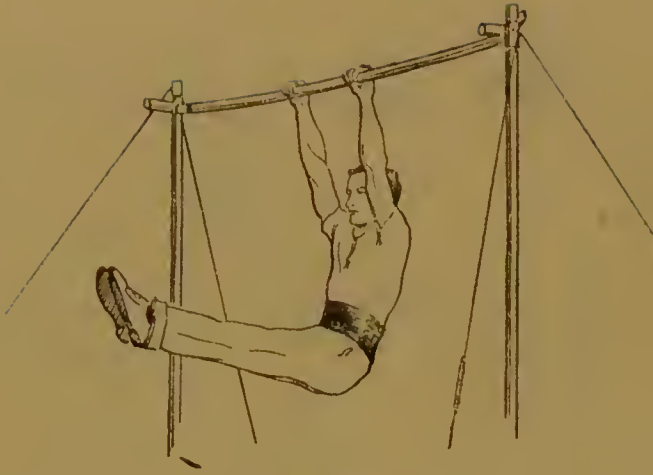


FIG. 64.



FIG. 65.



Fig. 66.



FIG. 67.

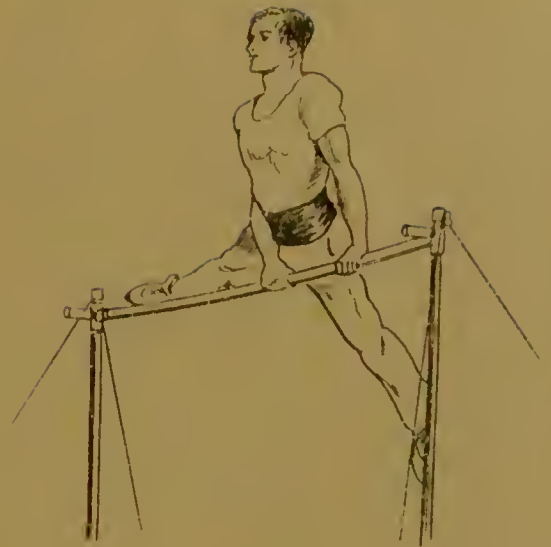


FIG. 68.



FIG. 69.



FIG. 70.



FIG. 71.

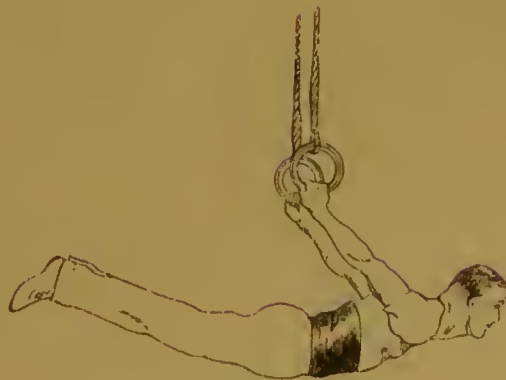


FIG. 72.



